

STIC-Biotech/ChemLib

Col 21

From: Hutzell, Paula
Sent: Tuesday, May 14, 2002 3:14 PM
To: STIC-Biotech/ChemLib; Spector, Lorraine
Subject: FW: RUSH SEARCH request for Serial No. 09/575199

please rush

-----Original Message-----

From: Spector, Lorraine
Sent: Tuesday, May 14, 2002 2:49 PM
To: Hutzell, Paula
Subject: RUSH SEARCH request for Serial No. 09/575199

Paula,
Would you please authorize the following RUSH search?
Reason: Amended, sequence only recently entered

STIC,
Serial Number:09/575199
Please search SEQ ID NO:2, residues 1-116.
-pending
-issued
-commercial

Thanks.

Lorraine Spector
703-308-1793
U.S. Patent and Trademark Office
Art Unit 1646
lorraine.spector@uspto.gov
CM1-10B11

10001

RECEIVED
MAY 14 2002
STIC

Searcher: D. Schreiber
Phone: 308-4292
Location: CM1 6403
Date Picked Up: 5/17
Date Completed: 5/20
Searcher Prep/Review: 2
Clerical: _____
Online time: 5

TYPE OF SEARCH:
NA Sequences: _____
AA Sequences: 1
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: 1
Other: _____

VENDOR/COST(where applic.)
STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: _____
Sequence Sys.: CompuGen
WWW/Internet: _____
Other (specify): _____

GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: May 17, 2002, 07:36:43 ; Search time 77.7 seconds

(without alignments)
165.824 Million cell updates/sec

Title: US-09-575-199-2_COPY_1_116

Perfect score: 654
Sequence: 1 MNFLSWHWSTALILYLHH.....TEESNTWQIRKRCQGH 116

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A.GeneSeq_032802:*

- 1: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1980.DAT:*
- 2: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1981.DAT:*
- 3: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1982.DAT:*
- 4: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1983.DAT:*
- 5: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1984.DAT:*
- 6: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1985.DAT:*
- 7: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1986.DAT:*
- 8: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1987.DAT:*
- 9: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1988.DAT:*
- 10: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1989.DAT:*
- 11: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1990.DAT:*
- 12: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1991.DAT:*
- 13: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1992.DAT:*
- 14: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1993.DAT:*
- 15: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1994.DAT:*
- 16: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1995.DAT:*
- 17: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1996.DAT:*
- 18: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1997.DAT:*
- 19: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1998.DAT:*
- 20: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1999.DAT:*
- 21: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2000.DAT:*
- 22: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	654	100.0	147	16	AAAR1075
2	654	100.0	147	17	AAAR94001
3	654	100.0	147	19	AAAM62524
4	654	100.0	147	21	AAAY90402
5	654	100.0	147	21	AAAY69412
6	654	100.0	147	21	AAAR83033
7	654	100.0	147	22	AAAB98080
8	654	100.0	147	22	AAAB50427
9	654	100.0	147	22	AAAB50431
10	654	100.0	164	20	AAAY43482
11	654	100.0	171	20	AAAY07473

12	654	100.0	174	22	AAAB82531
13	654	100.0	188	20	AAAY43484
14	654	100.0	191	11	AAAR08002
15	654	100.0	191	16	AAAR91076
16	654	100.0	191	17	AAAM00724
17	654	100.0	191	17	AAAR94002
18	654	100.0	191	17	AAAR94002
19	654	100.0	191	19	AAAB69331
20	654	100.0	191	19	AAAB62525
21	654	100.0	191	20	AAAY33439
22	654	100.0	191	21	AAAB28232
23	654	100.0	191	21	AAAY90403
24	654	100.0	191	21	AAAB69414
25	654	100.0	191	21	AAAB83035
26	654	100.0	191	22	AAAB84601
27	654	100.0	191	22	AAAB84603
28	654	100.0	191	22	AAAB31562
29	654	100.0	191	22	AAAB97568
30	654	100.0	191	22	AAAB50433
31	654	100.0	208	20	AAAY83483
32	654	100.0	213	21	AAAB50434
33	654	100.0	213	22	AAAB50436
34	654	100.0	215	11	AAAR05102
35	654	100.0	215	16	AAAR91077
36	654	100.0	215	17	AAAR94003
37	654	100.0	215	17	AAAB62526
38	654	100.0	215	21	AAAB10645
39	654	100.0	215	21	AAAY90404
40	654	100.0	215	21	AAAY69415
41	654	100.0	215	21	AAAY7035
42	654	100.0	215	22	AAAB37512
43	654	100.0	232	16	AAAR91078
44	654	100.0	232	17	AAAR94004
45	654	100.0	232	19	AAAB62527

ALIGNMENTS

RESULT 1	
AAAR1075	standard; Protein: 147 AA.
XX	
AC	AAAR1075;
XX	
DF	14-MAR-1996 (first entry)
XX	
DE	Human vascular endothelial growth factor-121, VEGF-121.
XX	
KW	Conjugate: growth factor; FGF; cytotoxin; saporin; eye; regulation;
KW	cell proliferation; psoriasis; pterygia; corneal clouding; cancer;
KW	rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
KW	heparin binding.
XX	
OS	Homo sapiens.
XX	
FH	Key
FT	Peptide
FT	1..26
FT	/label- sig-peptide
FT	27..147
FT	/label- VEGF-121
XX	
PN	WO9524928-A2.
XX	
PD	21-SEP-1995.
XX	
PF	15-MAR-1995; 95MO-US03448.
XX	
PR	15-MAR-1994; 94US-0213447.
PR	15-MAR-1994; 94US-0213446.
XX	
PA	(PRIZ-) PRIZM PHARM INC.
XX	

Vascular endothelial
Amino acid sequenc
Human vascular end
Human vascular end
Vascular endotheli
VEGF165. Homo sap
Human VEGF protein
Human acid sequenc
Parapox virus VEGF
Wild-type human VE
VEGF encoded by c1
Amino acid sequenc
Human vascular end
Human VEGF-A poly
Human acid sequenc
Amino acid sequenc
Human VEGF protein
Human VEGF165. Ho
Human acid sequenc
Human vascular end
Human VEGF189. Ho
Human vascular per
Human VEGF189. Homo sap
Amino acid sequenc
Human VEGF protein
VEGF encoded by c1
Amino acid sequenc
Human VEGF. Homo
Human A215 amino a
Human VEGF C subun
Human vascular end
VEGF206. Homo sap
Amino acid sequenc

PI Baird JA, Houston LL, Nova MP, Sosnowski BA;
 XX MPI: 1995-336820/43.
 DR N-PSDB; AAO99080.
 XX
 PT New conjugates of growth factor receptor ligand and targeted agent
 PT - partic. DNA or cytotoxin, used to control cell proliferation in
 PT the eye, e.g. to prevent growth of pterygii and corneal clouding
 XX
 PS Disclosure: Page 184-185; 204pp; English.
 XX
 CC AAR91075-R91078 are human vascular endothelial growth factors (VEGFs).
 CC DNA encoding a VEGF can be used to create a fusion protein (FP),
 CC the cDNA of which includes a nucleic acid binding domain (NABD) and
 CC encodes a heparin binding growth factor, HEGF (e.g. VEGF, FGF, HBEGF),
 CC a protein synthesis inhibitor and opt. a linker imparting flexibility
 CC to the FP. The FP can be used to target a protein synthesis inhibitor,
 CC an antisense DNA sequence or an inhibitor of elongation factor 2, to a
 CC cell carrying a HEGF receptor. The conjugates of the invention are
 CC used to inhibit cell proliferation in cells carrying the particular
 CC growth factor receptor. A specific application is to prevent
 CC excessive proliferation of epithelial cells, fibroblasts and
 CC keratinocytes in the anterior eye after surgery, partic. to prevent
 CC recurrence of pterygii after surgical removal, closure of
 CC trebleclectomy after glaucoma surgery and corneal clouding after
 CC excimer laser treatment. Other conditions which may be treated include
 CC tumours, restenosis, psoriasis, Dupuytren's contracture, diabetic
 CC complications, Kaposi's sarcoma and rheumatoid arthritis.
 CC
 XX Sequence 147 AA;
 SQ

Query Match 100.0%; Score 654; DB 16; Length 147;
 Best Local Similarity 100.0%; Pred. No. 7.5e-65;
 Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWVMSIALLLYLHNAKMSOAPMAEGGONHENVKEMDYORSYCHPIETLVD 60
 DB 1 mnflswvmsiallllylhakwsgaapmaeggggnhenvkfmdyqrsychnpietlvd 60
 OY 61 IFQEXPDLEIYIFKPSQVPLMRGCGCNDGIECVPTESNITMQIMRIKPHQGOH 116
 DB 61 ifqeypdleyifkpscvplmrccgcndegiecvpteesnltmqimrikpbgqh 116

RESULT 2
 AAR94001
 ID AAR94001 standard; Protein; 147 AA.
 XX
 AC AAR94001;
 XX
 DT 09-OCT-1996 (first entry)
 XX
 DE VEGF121.
 XX
 KW Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris;
 KW proliferation inhibition; VEGF-mediated pathophysiological condition;
 KW dermatological disorder; VEGF receptor; vascular proliferation; retina;
 KW ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis;
 KW conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
 KW varicose veins; gene therapy.
 XX
 OS Homo sapiens.
 XX
 PN MO9606641-A1.
 XX
 PD 07-MAR-1996.
 XX
 PF 29-AUG-1995; 95MO-US10973.
 XX
 PR 16-MAY-1995; 95US-0441979.
 PR 29-AUG-1994; 94US-0297961.
 XX

PA (PRIZ-) PRIZM PHARM INC.
 XX
 PI Fleurbaatj GA, Freund E, Houston LL, Nova MP, Sosnowski BA;
 PI Victor KD;
 XX
 DR MPI: 1996-160151/16.
 DR N-PSDB; AAT17613.
 XX
 PT Vascular endothelial cell growth factor (VEGF) conjugates - having
 PT VEGF linked to targeted agent, used for inhibiting proliferation of
 PT cells, e.g. for gene therapy
 XX
 PS Disclosure: Page 122-123; 193pp; English.
 XX
 CC AAR94001-R94004, AAR94031, AAR94032, AAR94039 and AAR94040 represent
 CC vascular endothelial growth factors (VEGF). This sequence represents
 CC VEGF121. These sequences were used in VEGF conjugates of the invention.
 CC In the conjugates, VEGF (or fragments of it) are linked to a targeted
 CC agent (this can be via a linker sequence), so that the conjugate binds to
 CC a VEGF receptor. Cys-modified forms of VEGF are particularly suitable
 CC for chemical conjugation to linkers and targeted agents. The conjugates
 CC are used for inhibiting proliferation of cells bearing VEGF receptors.
 CC They can be used for treating a VEGF-mediated pathophysiological
 CC condition, including dermatological disorders with underlying vascular
 CC proliferation, solid tumours or an ophthalmic disorder of
 CC hyperproliferating blood vessels of the retina, iris, conjunctiva or
 CC vitreous humour. The conjugates can also be used for treating
 CC psoriasis, rheumatoid arthritis, skin cancers and other tumours, or
 CC varicose veins. They are also suitable for use in gene therapy.
 CC
 XX Sequence 147 AA;
 SQ

Query Match 100.0%; Score 654; DB 17; Length 147;
 Best Local Similarity 100.0%; Pred. No. 7.5e-65;
 Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWVMSIALLLYLHNAKMSOAPMAEGGONHENVKEMDYORSYCHPIETLVD 60
 DB 1 mnflswvmsiallllylhakwsgaapmaeggggnhenvkfmdyqrsychnpietlvd 60
 OY 61 IFQEXPDLEIYIFKPSQVPLMRGCGCNDGIECVPTESNITMQIMRIKPHQGOH 116
 DB 61 ifqeypdleyifkpscvplmrccgcndegiecvpteesnltmqimrikpbgqh 116

RESULT 3
 AAM62524
 ID AAM62524 standard; Protein; 147 AA.
 XX
 AC AAM62524;
 XX
 DT 11-SEP-1998 (first entry)
 XX
 DE Amino acid sequence of human VEGF-121.
 XX
 KW Human; vascular endothelial growth factor; VEGF; production;
 KW nitric oxide; prostacyclin; treatment; prevention; intimal hyperplasia;
 KW blood vessel; essential hypertension; pulmonary arterial hypertension;
 KW PAH; cor pulmonale; atherosclerosis; (re)stenosis; angioplasty;
 KW coronary bypass operation; anastomosis; endarterectomy.
 XX
 OS Homo sapiens.
 XX
 PN MO9620027-A2.
 XX
 PD 14-MAY-1998.
 XX
 PF 03-NOV-1997; 97MO-GB03015.
 XX
 PR 21-AUG-1997; 97GB-0017791.
 PR 01-NOV-1996; 96GB-0022852.
 PR 09-MAY-1997; 97GB-0009494.
 XX

XX (EURO-) EUROGENE LTD.
PA
XX Barker SGE, Martin JF, Yla-Herttuala S;
PI
XX MPI: 1998-286857/25.
DR
XX N-PSDB; AAV38450.
PT Treatment or prevention of intimal hyperplasia by stimulating
PT production of nitric oxide - by administration of vascular
PT endothelial growth factor, useful for, e.g. treating or preventing
PT intimal hyperplasia
XX
PS Claim 8; Page 54; 70pp; English.
XX
XX The present sequence represents human vascular endothelial growth factor
CC 121 (VEGF-121). VEGF stimulates production of nitric oxide and
CC prostacyclin. VEGF can therefore be used for treatment or prevention
CC of intimal hyperplasia in a blood vessel. VEGF can be used for treating
CC or preventing any condition responsive to in vivo stimulation of
CC nitric acid and prostacyclin (especially essential hypertension,
CC pulmonary arterial hypertension (PAH), cor pulmonale and
CC atherosclerosis. VEGF is specifically used to control (re)stenosis,
CC where caused by PAH or by a surgical procedure such as angioplasty,
CC coronary bypass operation, anastomosis or endarterectomy.
XX
SQ Sequence 147 AA:

Query Match 100.0%; Score 654; DB 19; Length 147;
Best Local Similarity 100.0%; Pred. No. 7.5e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWVHWSLALLLYLHAKMSQAAPMAEGGCGNHHEVVKFMDVYQRSYCHPIETLVD 60
Db 1 mnlflswvhwslalllylhakwsgaapmaeggqnhhevkkfmdvyqrsychnpietlvd 60

QY 61 IFQEPDEIEYIFKPSVPLMRGCGCNDGEGVPTESNTIMQIMKIRPHQGH 116
Db 61 ifqepdeleyifkpscvplmrsgcgndeglevpteesnltmqimirkphgqh 116

RESULT 4
AAV90402 standard; Protein: 147 AA.
XX
AC AAV90402:
XX
DT 18-JUL-2000 (first entry)
XX
DE VEGF encoded by clone VEGF121, SEQ ID NO:1.
XX
XX Targeted gene delivery; fibroblast growth factor receptor;
KW FGF-binding protein; nucleic acid binding protein;
KW receptor-internalised ligand; cytoxin; saporin; gene therapy;
KW cytotoxic; antiproliferative; cancer; melanoma; diabetic retinopathy;
KW rheumatoid arthritis; restenosis; Dupuytren's contracture; psoriasis;
KW eczema; heparin-binding epidermal growth factor; HBEGF;
KW vascular endothelial growth factor; VEGF.
XX
XX Unidentified.
OS
XX
XX US6037329-A.
PN
XX
XX 14-MAR-2000.
PD
XX
XX 24-SEP-1996; 96US-0718904.
PE
XX
XX 15-MAR-1994; 94US-0213446.
PR
XX 15-MAR-1994; 94US-0213447.
PR 29-AUG-1994; 94US-0297961.
PR 13-SEP-1994; 94US-0305771.
PR 16-MAY-1995; 95US-0441979.

XX (SELF-) SELECTIVE GENETICS INC.
PA
XX Chandler LA, Sosnowski BA, Baird JA;
PI
XX MPI: 2000-292008/25.
DR
XX N-PSDB; AAA12853.
PT Gene delivery system, useful for treating or preventing cancer and
PT rheumatoid arthritis, comprises receptor-internalized ligand linked to
PT nitric acid binding domain and nucleic acid
XX
PS Disclosure; Columns 83-84; 131pp; English.
XX
XX The invention relates to a novel gene delivery composition for the
CC targeted delivery of cytotoxins or prodrug-converting enzymes to
CC proliferating cells. The gene delivery composition comprises a protein
CC that binds the fibroblast growth factor receptor (FGFR) which is fused
CC or chemically conjugated to a nucleic acid binding domain. The nucleic
CC acid binding domain is complexed with a suitable expression construct
CC encoding a cytotoxin such as saporin. One or more linkers may join the
CC FGFR-binding protein to the nucleic acid binding protein. These are
CC selected to increase the specificity, toxicity, solubility, serum
CC stability or intracellular availability, and may serve to promote
CC condensation of nucleic acids for delivery to a cell. The fusion protein
CC binds to FGFR and is internalised by cells that carry this receptor. The
CC gene delivery composition is used for the therapeutic alteration of the
CC function, gene expression and viability of cells. In particular, it may
CC be used for the treatment and prevention of cell proliferative
CC disorders, for example after eye surgery, melanoma and many other sorts
CC of cancer, rheumatoid arthritis, restenosis, Dupuytren's contracture,
CC diabetic retinopathy, psoriasis and eczema. The gene delivery
CC compositions of the invention have high specificity for particular cells
CC and can deliver larger amounts of DNA compared to prior art methods.
CC Sequences AAA12853- AAA12856 represent cDNA clones encoding vascular
CC endothelial growth factor (VEGF), and sequences AAV90402-Y90405 represent
CC the encoded VEGF proteins. AAA12857 represents cDNA encoding human
CC heparin-binding epidermal growth factor (HBEGF) precursor, and
CC AAV90406-Y90409 represent HBEGF precursor and mature proteins.
XX
SQ Sequence 147 AA:

Query Match 100.0%; Score 654; DB 21; Length 147;
Best Local Similarity 100.0%; Pred. No. 7.5e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWVHWSLALLLYLHAKMSQAAPMAEGGCGNHHEVVKFMDVYQRSYCHPIETLVD 60
Db 1 mnlflswvhwslalllylhakwsgaapmaeggqnhhevkkfmdvyqrsychnpietlvd 60

QY 61 IFQEPDEIEYIFKPSVPLMRGCGCNDGEGVPTESNTIMQIMKIRPHQGH 116
Db 61 ifqepdeleyifkpscvplmrsgcgndeglevpteesnltmqimirkphgqh 116

RESULT 5
AAV69412 standard; Protein: 147 AA.
XX
AC AAV69412:
XX
DT 03-JUL-2000 (first entry)
XX
DE Amino acid sequence of vascular endothelial growth factor 121.
XX
XX Human; vascular endothelial growth factor; VEGF 121; angiogenic factor;
KW blood vessel injury; vascular injury; microvascular angiopathy;
KW thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome;
KW toxic shock syndrome; venous; hypercoagulable state; platelet activation;
KW platelet aggregation; thrombosis; pre-eclampsia; sepsis; pancreatitis;
KW intravascular coagulation; thrombotic thrombocytopenia purpura;
KW acute renal failure; myocardial infarction; ischemic bowel disease;

KW	stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
KV	acute respiratory distress syndrome; pneumonia; pulmonary emboli;
KM	birth prematurity disorder; wound; allergy; hypersensitivity;
KN	autoimmune disease; organ transplant; focal glomerulosclerosis;
KX	amyloidosis.
OS	Homo sapiens.
XX	
PN	MO200013702-A2.
XX	
PD	16-MAR-2000.
XX	
PF	09-SEP-1999; 99WO-US20480.
XX	
PR	09-SEP-1998; 98US-0099694.
FR	26-MAR-1999; 99US-0126406.
FR	27-MAR-1999; 99US-0126615.
PA	(SCIO-) SCIOS INC.
PX	
PI	Schreiner GF, Johnson RJ;
DR	WPI: 2000-256861/22.
DR	N-PDB: AAZ99544.
PT	Novel methods and compositions for the prevention and treatment of
PT	microvascular angiotaples by administration of angiogenic factors such
PS	as vascular endothelial growth factor (VEGF)
PS	Disclosure: Flg 3; 46pp; English.
XX	
XX	The present sequence represents native human vascular endothelial growth
CC	factor (VEGF) 121. VEGF is an angiogenic factor. VEGF proteins are used
CC	for the prevention or repair of injury to blood vessels or associated
CC	nonvascular tissues (served by the blood vessels) and for the prevention
CC	and repair of vascular injury associated with microvascular angiopathy,
CC	particularly thrombotic microangiopathy. The protein methods may also
CC	be useful for the prevention and treatment of kidney diseases associated
CC	with injury to, or atrophy of, the vasculature of the glomerulus and
CC	interstitium. Conditions which may be treated include haemolytic uremic
CC	syndrome, toxic shock syndrome, venom exposure, chemical exposure,
CC	hypercoagulable states, platelet activation or aggregation, thrombosis,
CC	preeclampsia, thrombotic thrombocytopenia purpura, disseminated
CC	intraovascular coagulation, sepsis, pancreatitis, acute renal failure,
CC	myocardial infarction, ischemic bowel disease, transient ischemic
CC	attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung
CC	endothelium injury, acute respiratory distress syndrome, toxic alveolar
CC	injury, pneumonia, pulmonary emboli, birth prematurity disorders,
CC	wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ
CC	transplants, focal glomerulosclerosis, and amyloidosis.
XX	
SO	Sequence 147 AA:
XX	
Query Match	100.0%: Score 654; DB 21; Length 147;
Best Local Similarity	100.0%: Pred. NO. 7.5e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
OY	1 MNFLSWHMSLALLLYLTHARKQAAPMAEAGGONHHEVEMDYORSYCHPLETLDV 60
DB	1 mmlfslwvhtsalillylhakwsqaapaeggggnhhvevkfmndyqrsychpletldl 60
OY	61 IQQEPDELEIFKRSQVPILMGCGCNDGELEGCTPESNTITMQIMRKPKQGQH 116
DB	61 lfgeypdeleylfkpscvplmcrgcgcndegiecvptesntltmqimrkpkpgqh 116
RESULT 6	
AAV83033	
ID	AAV83033 standard; Protein; 147 AA.
AC	AAV83033;
XX	

DT	04-JUL-2000	(first entry)
XX		
XX	Human vascular endothelial growth factor (HVEGF121).	
KW	Vascular endothelial growth factor; human; angiogenesis; VGEF;	
KW	capillary formation; hypertension; treatment; kidney; CNS; stroke;	
KW	meningitis; central nervous system; tumour; infection; bone growth;	
KW	hypoxia; hypercapnia; fibrosis; inflammatory bowel disease;	
KW	diarrhoea; allografts; cardiac valve.	
XX		
OS	Homo sapiens.	
XX		
PN	MO2000J3703-A2.	
XX		
PD	16-MAR-2000.	
XX		
PF	09-SEP-1999; 99WO-US20481.	
XX		
PR	09-SEP-1998; 98US-0099694.	
PR	26-MAR-1999; 99US-0126406.	
PR	27-MAR-1999; 99US-0126615.	
XX		
PA	(SCIO-) SCIOS INC.	
PI	Schreiner GF, Johnson RJ;	
XX		
DR	WPI: 2000-256862/22.	
XX		
DR	N-PSDB: AA293345.	
XX		
PT	Novel methods for treating hypertension by administering a factor which	
PT	increases angiogenesis and/or vascular permeability	
PS	Claim 5; Figure 6; 51pp: English.	
XX		
CC	Administering vascular endothelial growth factor (VEGF) can be used	
CC	for treating hypertension (especially salt-dependent hypertension)	
CC	Administeration of VEGF promotes angiogenesis and/or vascular or	
CC	capillary permeability. The method is also useful in treating	
CC	disorders related to abnormal transport of solutes across endothelial	
CC	cells. Such disorders include the treatment or prevention of kidney	
CC	disease associated with impaired filtration or excretion of solutes;	
CC	the treatment or prevention of diseases of the central nervous system	
CC	associated with alterations in cerebrospinal fluid, e.g. stroke,	
CC	meningitis, tumour, infections, and bone growth disorders; treatment	
CC	or prevention of hypoxia or hypercapnia or fibrosis arising from	
CC	accumulation of fluid secretions in the lungs, e.g. acute respiratory	
CC	distress syndrome, toxic alveolar injury, pneumonia, infections,	
CC	surgical intervention, cystic fibrosis; treatment or prevention of	
CC	pulmonary dysfunction arising from injury to the pulmonary	
CC	endothelium, including disorders arising from premature birth, and	
CC	pulmonary hypertension; treatment or prevention of disease arising	
CC	from disordered transport of fluid and solutes across the intestinal	
CC	epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or	
CC	prevention of ascites accumulation in the peritoneum; enhancement of	
CC	efficacy of solute flux; preservation or enhancement of function of	
CC	organ allografts; and treatment of cardiac valve disease. This	
CC	sequence is the native human vascular endothelial growth	
CC	factor hVEGF121. The activity of VEGF is mediated by interaction	
CC	with specific receptors on target tissues, most notably the vascular	
CC	endothelium. VGEF exists as five different length monomer chains due	
CC	to alternative splicing of the VGEF RNA transcript. VGEF121 is	
CC	unique among the five forms in that it does not bind to heparin like	
CC	molecules associated with the extracellular matrix.	
XX		
SQ	Sequence 147 AA;	
XX		
Query Match	100.0%; Score 654; DB 21; Length 147;	
Best Local Similarity	100.0%; Pred. NO. 7.5e-65;	
Matches 116; Conservative	0; Mismatches 0; Indels 0; Gaps	0;

Db 1 mnlflsvhwshslalllylhakwsgaapmaegggqnhhvvkfmdivyqrsychnpletlvd 60
OY 61 IFQEPDEIEYIFKPSCVPLMRGCGCNDGECVPTESNITMQLIRKPHOGQH 116
Db 61 lfgeydeleylfkpscvplmrsgcndeglecyplesnltmqmlrkphgqgh 116

RESULT 7

AAB98080
ID AAB98080 standard; Protein; 147 AA.

XX AAB98080;

DT 16-AUG-2001 (first entry)

DE Human VEGF splice variant VEGF121 protein SEQ ID NO:4.

KW Human; vascular endothelial growth factor; VEGF splice variant; VEGF;
KM VEGF121; colon cancer cell line acquired malignancy; anticancer.

XX Homo sapiens.

OS Homo sapiens.

FT Key Location/Qualifiers

FT Peptide 1..26 /label= signal

FT Protein 27..147

FT /label= VEGF_splice_variant_VEGF121

PN JP2001061483-A.

PD 13-MAR-2001.

PF 31-AUG-1999; 99JP-0244198.

PR 31-AUG-1999; 99JP-0244198.

PA (EISA) EISAI CO LTD.

DR MPI: 2001-294711/31.

DR N-PSDB; AAH21876.

XX Human colon cancer cell line is transfected with VEGF gene and selected

PT for having acquired malignancy -

PS Example 1; Page 7; 8pp; Japanese.

CC The present invention describes a method in which the vascular

CC endothelial growth cell (VEGF) gene is introduced to a human colon

CC cancer cell showing no malignancy, and a cell line highly expressing

CC VEGF is selected to get a cell line acquired malignancy. Also described

CC are: (1) a human colon cancer cell line acquired malignancy by the above

CC method; (2) WDR cell line acquired malignancy by the above method;

CC (3) a method for screening an anticancer agent by using the above human

CC colon cancer cell line, preferably WDR cell line, acquired malignancy;

CC and (4) a compound screened by the above method. The human colon cancer

CC cell line acquired malignancy can be used for screening an anticancer

CC agent. The present sequence represents the human VEGF splice variant

CC VEGF121, which is used in an example from the present invention.

XX VEGF121, which is used in an example from the present invention.

SQ Sequence 147 AA;

Query Match 100.0%; Score 654; DB 22; Length 147;
Best Local Similarity 100.0%; Pred. No. 7.5e-65;

Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSVHWSHSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMDVYQORSYCHPIETLVD 60

Db 1 mnlflsvhwshslalllylhakwsgaapmaegggqnhhvvkfmdivyqrsychnpletlvd 60

OY 61 IFQEPDEIEYIFKPSCVPLMRGCGCNDGECVPTESNITMQLIRKPHOGQH 116

Db 61 lfgeydeleylfkpscvplmrsgcndeglecyplesnltmqmlrkphgqgh 116

RESULT 8

AAB50427
ID AAB50427 standard; Protein; 147 AA.

XX AAB50427;

DT 13-MAR-2001 (first entry)

DE Human vascular endothelial growth factor polypeptide.

KW Human; vascular endothelial growth factor; VEGF; VEGF dimer;

KW antihypertensive; litholytic; nephrotoxic; antiarteriosclerotic;

KW antiinflammatory; angiogenesis; vascular remodeling; injury; wound;

KW peripheral arterial disease; coronary artery disease; hypoxia;

KW essential hypertension; microvascular angiology; hypercapnia;

KW polycystic kidney disease; vascular endothelial cell repair;

KW lung disease; kidney disease; inflammatory bowel disease.

XX Homo sapiens.

OS Homo sapiens.

PN WO200071716-A2.

PD 30-NOV-2000.

PF 18-MAY-2000; 2000MO-US13636.

PR 20-MAY-1999; 99US-0135312.

PR 20-JAN-2000; 2000US-0177407.

PA (SCIO-) SCIOS INC.

DR Jue RA, Schellenberger U, Stathis PA, Adriaenssens PI, Abraham JA;

DR Baldwin PA, Pollitt NS;

DR MPI: 2001-041064/05.

DR N-PSDB; AAC90473.

XX Vascular endothelial growth factor dimer, useful for treating essential

PT hypertension, polycystic kidney diseases, microvascular angiology and

PT coronary artery disease, comprising two monomeric subunits -

PS Example 1; Fig 1; 61pp; English.

CC The present sequence encodes a monomer of a vascular endothelial growth

CC factor (VEGF) dimer. The dimer comprises a first and a second monomer,

CC each comprising at least amino acids 11-116 of a defined 147 amino acid

CC sequence, or a sequence having at least 90% identity to the defined

CC sequence, and retaining a cysteine at or corresponding to position 116,

CC which is disulphide-bonded to an additional extraneous cysteine. The

CC VEGF dimer is useful for inducing angiogenesis and vascular remodeling;

CC treating peripheral arterial disease, coronary artery disease, essential

CC hypertension, microvascular angiology and polycystic kidney disease,

CC and repair of vascular endothelial cell layers. It is also useful for

CC treating injuries, wounds, hypoxia, hypercapnia, pulmonary dysfunction,

CC kidney diseases, diseases arising from disordered transport of solutes

CC and fluids across the intestinal epithelium including inflammatory bowel

CC disease, and disorders due to accumulation of ascites in the

CC peritoneum.

XX Sequence 147 AA;

Query Match 100.0%; Score 654; DB 22; Length 147;
Best Local Similarity 100.0%; Pred. No. 7.5e-65;

Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSVHWSHSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMDVYQORSYCHPIETLVD 60

Db 1 mnlflsvhwshslalllylhakwsgaapmaegggqnhhvvkfmdivyqrsychnpletlvd 60

OY 61 IFQEPDEIEYIFKPSCVPLMRGCGCNDGECVPTESNITMQLIRKPHOGQH 116

Db 61 lfgeydeleylfkpscvplmrsgcndeglecyplesnltmqmlrkphgqgh 116

Db 61 ifgypdeleyifkpscvplmrccgndeglecvcpeesnltnqimrkphgqh 116

RESULT 9

ID AAB50431 standard; Protein; 147 AA.

AC AAB50431;

DT 13-MAR-2001 (first entry)

DE Human VEGF121.

XX Human: VEGF: vascular endothelial growth factor; VEGF121; VEGF145;
KM cardiant; cerebroprotective; hypotensive; nephrotropic; antidiabetic;
KM dermatological; immunosuppressive; antiinflammatory; cytostatic;
KM vasotropic; antibacterial; angiogenesis; vascular remodeling;
KM vascular disease; kidney disease; diabetes; systemic lupus erythematosus;
KM meningitis; tumour; infection; lung disease inflammatory bowel disease.

OS Homo sapiens.

PN WO200071713-A1.

PD 30-NOV-2000.

PF 18-MAY-2000; 2000WO-US13536.

PR 20-MAY-1999; 99US-0135312.

PA (SCIO-) SCIOS INC.

PI Pollitt NS, Abraham JA;

DR WPI; 2001-025162/03.

DR N-FSDB; AAC90477.

XX Enhancing biological activity of vascular endothelial growth factor by
PT replacing a Cys residue, for producing variant useful for treating
PT hypertension, stroke, diabetes, lupus, glomerulonephritis, meningitis,
PT tumor, pneumonia, infections -

XX Claim 5; Fig 3: 62pp; English.

XX The present sequence is given in a specification relating to a method for
CC enhancing the biological activity of a vascular endothelial growth factor
CC (VEGF) originally having a cysteine residue at a position 116 of the 121
CC amino acid native mature human VEGF. The method comprises eliminating the
CC cysteine residue to produce a VEGF variant. The variant is useful for
CC inducing angiogenesis or vascular remodeling, for prevention or repair
CC of injury to blood vessels, where injury is associated with hemolytic
CC uraemic syndrome (HUS) or microvascular angiopathy such as thrombotic
CC microangiopathy (TMA). The VEGF variant is also useful for treatment of
CC essential hypertension in a patient. The variant is useful for treating
CC coronary artery disease and/or peripheral arterial disease, to foster
CC myocardial blood vessel growth and to improve blood flow to the heart. It
CC is useful for the treatment and prevention of kidney diseases associated
CC with injury to, or atrophy of, the vasculature of the glomerulus and
CC interstitium and for the treatment and prevention of acute renal failure,
CC myocardial infarction, ischaemic bowel disease, transient ischaemic
CC attacks, stroke, hypoxia, hypercapnia, focal glomerulosclerosis,
CC amyloidosis, glomerulonephritis, diabetes, systemic lupus erythematosus
CC or chronic hypoxia/atrophy. It is also useful in the preservation or
CC enhancement of function of organ allografts and xenografts, and for
CC treating disorders related to abnormal transport of solutes across
CC endothelial cells such as meningitis, tumour, infections, disorders of
CC bone growth, acute respiratory distress syndrome, toxic alveolar injury,
CC pneumonia, cystic fibrosis, inflammatory bowel disease, infectious
CC diarrhoea or cardiac valve disease.

XX Sequence 147 AA;

Query Match 100.0%; Score 654; DB 22; Length 147;
Best Local Similarity 100.0%; Pred. No. 7.5e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLLSVHNSLALLLYLHNAKMSQAAPMAEGGONHHEVKKFNDYORSYCHPIETLVD 60
DB 1 mnlflsvhnsallllylhakwsqaapmaegggnhhevkfkndyqrsychpietlvd 60
QY 61 IFQETPEIETIFKPSCVPLMRCCGNDGECVPLEESNITNQIMRKIPHOGQH 116
DB 61 ifgypdeleyifkpscvplmrccgndeglecvcpeesnltnqimrkphgqh 116

RESULT 10

ID AAY43482 standard; Protein; 164 AA.

AC AAY43482;

DT 26-JAN-2000 (first entry)

DE Amino acid sequence of VEGF-A138 protein.

XX Vascular endothelial factor; VEGF; VEGF-A138; variant; vascular disease;
KM cardiovascular disease; vascular cell proliferation; angioplasty;
KM restenosis; drug permeation; tumour; ischemic condition;
KM cardiac infarction; chronic coronary ischemia; stroke; wound treatment;
KM chronic lower limb ischemia; peripheral vascular disease.

OS Homo sapiens.

PH Key Location/Qualifiers

FT Peptide 1..27 /note="secretion signal sequence"

PN WO9440197-A2.

PD 12-ANG-1999.

PF 04-FEB-1999; 99WO-US02425.

PR 06-FEB-1998; 98US-0073979.

PA (COLL-) COLLATERAL THERAPEUTICS INC.

PI Baird A, Andreason G;

DR WPI; 1999-600967/51.

DR N-FSDB; AA229996.

XX New growth factor variants, useful for treating cardiovascular disease,
PT especially by stimulating vascular cell proliferation -

XX Claim 7; Fig 3: 101pp; English.

XX The present sequence represents vascular endothelial factor VEGF-A138.
CC It is a VEGF-A variant of the invention. The specification describes new
CC VEGF-A variants in which exon 6a is excluded (other forms which contain
CC both exon 6a and 6b are also described). The variants have a modified
CC affinity for matrix and low affinity receptors. This alters the
CC bioavailability of the proteins when administered directly to cells.
CC These variants are used to treat vascular disease, especially
CC cardiovascular disease, by stimulating vascular cell proliferation. They
CC enhance epithelialisation of diseased vessels, especially after
CC angioplasty. The re-endothelialisation reduces or prevents restenosis.
CC They are also useful for enhancing drug permeation by tumours and for
CC treating ischemic conditions such as cardiac infarction, chronic coronary
CC ischemia, chronic lower limb ischemia, stroke and peripheral vascular
CC disease. In addition they may be used to treat wounds.

XX Sequence 164 AA;

Query Match 100.0%; Score 654; DB 20; Length 164;
Best Local Similarity 100.0%; Pred. No. 8.5e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 1 mnlflsvhwslalllylhakwsqaapmaeggggnhhevvkfindvgrsychnpctetlvd 60
1 mnlflsvhwslalllylhakwsqaapmaeggggnhhevvkfindvgrsychnpctetlvd 60

Qy 1 FQEXPDIEYIFKPSVPLMRGCGCNDDEGLCEVPTFEESNTMOMIKRPHQGH 116
1 FQEXPDIEYIFKPSVPLMRGCGCNDDEGLCEVPTFEESNTMOMIKRPHQGH 116

Db 1 fgeypdeleyifkpsvplmrccgcndeglecvpteessnltnqimikphgqh 116
1 fgeypdeleyifkpsvplmrccgcndeglecvpteessnltnqimikphgqh 116

RESULT 11
ID AAY07473 standard; Protein: 171 AA.
AAV07473;
AC AAY07473;
XX
DT 03-AUG-1999 (first entry)
DE Human VEGF(145) protein sequence.
XX
XX Human;vascular endothelial growth factor; VEGF; vector; stimulation;
KW angiogenesis; mammal; peripheral; cardiac; tissue; ischemia; perfusion;
KW neovascularisation; muscle.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1..26
FT /note="signal peptide"
FT 27..171
FT Protein /note="mature protein"
XX
XX MO9921590-A1.
XX
PD 06-MAY-1999.
XX
PE 23-OCT-1998; 98WO-0522668.
XX
XX 26-NOV-1997; 97GB-0024906.
PR 27-OCT-1997; 97US-0063629.
XX
XX (MERI) MERCK & CO INC.
XX
PI Belt AJ, Huckle WR, Kendall RL, Thomas KA;
XX
DR WPI: 1999-302907/25.
DR N-PSDB: AAX57724.
XX
XX Stimulating angiogenesis by expressing vascular endothelial growth
PT factor
PS
XX Example 1; Fig 2; 46pp: English.
CC This sequence represents the 145 amino acid form of human vascular
CC endothelial growth factor (VEGF(145)). The coding sequence, when
CC administered in a vector, can be used to stimulate angiogenesis in a
CC mammal. Administration of the VEGF(145) is used to treat peripheral,
CC cardiac or other tissue ischemias, i.e. to increase neovascularisation,
CC perfusion and performance of ischemic muscle.
XX
XX Sequence 171 AA;

Query Match 100.0%; Score 654; DB 20; Length 171;
Best Local Similarity 100.0%; Pred. No. 8.9e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 mnlflsvhwslalllylhakwsqaapmaeggggnhhevvkfindvgrsychnpctetlvd 60
1 mnlflsvhwslalllylhakwsqaapmaeggggnhhevvkfindvgrsychnpctetlvd 60

Db 1 mnlflsvhwslalllylhakwsqaapmaeggggnhhevvkfindvgrsychnpctetlvd 60
1 FQEXPDIEYIFKPSVPLMRGCGCNDDEGLCEVPTFEESNTMOMIKRPHQGH 116

Qy 1 fgeypdeleyifkpsvplmrccgcndeglecvpteessnltnqimikphgqh 116
1 fgeypdeleyifkpsvplmrccgcndeglecvpteessnltnqimikphgqh 116

RESULT 12
ID AAB82531 standard; Protein: 174 AA.
AAB82531;
AC AAB82531;
XX
DT 17-SEP-2001 (first entry)
DE Vascular endothelial growth factor splice variant VEGF148.
XX
XX Vascular endothelial growth factor; VEGF; VEGF148; splice variant;
KW human; cancer; tumour; antitumour; vascular disease; kidney disease;
KW arthritis; antiarthritic; glomerulus; therapy.
XX
XX Homo sapiens.
XX
XX MO200153345-A1.
XX
XX 26-JUL-2001.
XX
XX 20-JAN-2000; 2000WO-GB00134.
XX
XX 20-JAN-2000; 2000WO-GB00134.
XX
XX 20-JAN-2000; 2000WO-GB00134.
XX
XX (NBRI-) NORTH BRISTOL NHS TRUST.
XX
XX
XX Harper SJ;
XX
XX WPI: 2001-465370/50.
DR N-PSDB: AAH26082.
XX
XX Treating or preventing e.g. tumour growth and metastasis, arthritis,
PT psoriasis, comprises inducing vascular endothelial growth factor (VEGF)
PT heterodimer formation in vivo, or administering a pre-formed VEGF
PT heterodimer
XX
XX Claim 3; Page 23; 37pp: English.
CC The present sequence is that of novel splice variant VEGF148 of
CC vascular endothelial growth factor from human glomeruli. VEGF148
CC cDNA (see AAH26082) shows homology to the VEGF206 sequence for
CC exons 1-5, but lacks exon 6, and has a 35 bp deletion at the end of
CC exon 7. The deletion changes the reading frame and a premature
CC stop codon results, producing the additional deletion of exon 8.
CC VEGF148 is predicted to act in vivo as a native inhibitor of other
CC VEGF isoforms. It is expected to form a heterodimer with a monomer
CC of another VEGF isoform, which renders the other VEGF isoform less
CC potent. A claimed method of treating or preventing a disease in a
CC mammalian patient comprises inducing VEGF heterodimer formation in
CC vivo, or administering a pre-formed VEGF heterodimer to the
CC mammalian patient. The method is useful for treating or preventing
CC tumour growth and metastasis, rheumatoid arthritis, psoriasis,
CC atherosclerosis, diabetic retinopathy, retrolental fibroplasias,
CC neovascular glaucoma, age-related macular degeneration, haemangiomas,
CC immune rejection of transplanted corneal tissue and other tissues
CC and chronic inflammation. Particularly, the method is useful for
CC treatment of cancer, vascular disease, proteinuric renal disease,
CC and arthritis, as well as neoplastic disorders (e.g. sarcomas,
CC carcinoma), and non-neoplastic conditions (e.g. chronic inflammation,
CC lung inflammation, nephritic syndrome, preclampsia, ascites,
CC pericardial effusion or pleural effusion).
XX
XX Sequence 174 AA;

Query Match 100.0%; Score 654; DB 22; Length 174;

Best Local Similarity 100.0%; Pred. No. 9.1e-65;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHWSIALLLYHNAKWSQAAPMAEGGONHHEVVKPMKYORSTCHPIETLVD 60
DB 1 mflfswhwsialllylhakwsqaapmaegggqnhhevkvfmdyqrsychnpletlvd 60
OY 61 IFOEPPDEIEYIFKRSQVPLMRGCGCCNDEGLECVPTESNTTQIMRIKPHQGH 116
DB 61 lfgeypdeleylfkpscvplmrcgscndeglecvpteessnlmtqimrikphqgh 116

RESULT 13

AA43484
ID AA43484 standard; Protein: 188 AA.

XX AC AA43484;

XX DT 26-JAN-2000 (first entry)

XX DE Amino acid sequence of VEGF-A162 protein.

XX KW Vascular endothelial factor; VEGF; VEGF-A162; variant; vascular disease;
XX KW cardiovascular disease; vascular cell proliferation; angioplasty;
XX KW restenosis; drug permeation; tumour; ischemic condition;
XX KW cardiac infarction; chronic coronary ischemia; stroke; wound treatment;
XX KW chronic lower limb ischemia; peripheral vascular disease.

XX OS Homo sapiens.

XX FH Key Location/Qualifiers
XX FT Peptide 1..27
XX FT /note= "secretion signal sequence"

XX PN WO9940197-A2.

XX PD 12-AUG-1999.

XX PE 04-FEB-1999; 99WO-US02425.

XX PR 06-FEB-1998; 98US-0073979.

XX PA (COLL-) COLLAGEN THERAPEUTICS INC.

XX PI Baird A, Andreason G;

XX DR WPI; 1999-600967/51.

XX DR N-PSDB; AA229998.

XX PT New growth factor variants, useful for treating cardiovascular disease,
XX PT especially by stimulating vascular cell proliferation -

XX PS Claim 9; Fig 5; 101pp; English.

XX The present sequence represents vascular endothelial factor VEGF-A162.
XX It is a VEGF-A variant of the invention. The specification describes new
XX VEGF-A variants in which exon 6a is excluded (other forms which contain
XX both exon 6a and 6b are also described). The variants have a modified
XX affinity for matrix and low affinity receptors. This alters the
XX bioavailability of the proteins when administered directly to cells.
XX These variants are used to treat vascular disease, especially
XX cardiovascular disease, by stimulating vascular cell proliferation. They
XX enhance epithelialisation of diseased vessels, especially after
XX angioplasty. The re-endothelialisation reduces or prevents restenosis.
XX They are also useful for enhancing drug permeation by tumours and for
XX treating ischemic conditions such as cardiac infarction, chronic coronary
XX ischemia, chronic lower limb ischemia, stroke and peripheral vascular
XX disease. In addition they may be used to treat wounds.

XX Sequence 188 AA;

Query Match 100.0%; Score 654; DB 20; Length 188;

Best Local Similarity 100.0%; Pred. No. 1e-64;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHWSIALLLYHNAKWSQAAPMAEGGONHHEVVKPMKYORSTCHPIETLVD 60
DB 1 mflfswhwsialllylhakwsqaapmaegggqnhhevkvfmdyqrsychnpletlvd 60
OY 61 IFOEPPDEIEYIFKRSQVPLMRGCGCCNDEGLECVPTESNTTQIMRIKPHQGH 116
DB 61 lfgeypdeleylfkpscvplmrcgscndeglecvpteessnlmtqimrikphqgh 116

RESULT 14

AA08002
ID AA08002 standard; protein: 191 AA.

XX AC AA08002;

XX DT 27-FEB-1991 (first entry)

XX DE Human vascular endothelial growth factor as deduced from clone
XX DE lambda.veg1.21.

XX KW VEGF; leukaemia.

XX OS Homo sapiens.

XX FH Key Location/Qualifiers
XX FT Peptide 1..26
XX FT /label= signal peptide
XX FT Protein 27..191
XX FT /label= hVEGF

XX PN WO9013649-A.

XX PD 15-NOV-1990.

XX PE 09-MAY-1990; 90WO-US02585.

XX PR 04-AUG-1989; 89US-0389722.

XX PR 12-MAY-1989; 89US-0351117.

XX PR 21-JUN-1989; 89US-0369424.

XX PA (GETH) GENENTECH INC.

XX PI Ferrara N, Leung DMH;

XX DR WPI; 1990-361484/48.

XX DR N-PSDB; AA07006.

XX PT DNA encoding vascular endothelial cell growth factor - having
XX PT selective action for treatment of vascular conditions in absence
XX PT of excessive tissue proliferation.

XX PS Claim 38; Fig 10; 51pp; English.

XX Clone lambda.veg1.6 (AA06600), representing the full length DNA of
XX bovine VEGF was used to screen cDNA library prep. from RNA ex-
XX tracted from human leukaemia cell line HL60 (ATCC CCL240) for cDNA
XX clones encoding the growth factor. Five positive clones were
XX identified, one of which was designated lambda.veg1.21. This
XX clone was completely sequenced (AA07006). This AA sequence was
XX deduced from that sequence. The expression vector, p.veg1.21, was
XX used to produce recombinant VEGF for use in the treatment of
XX conditions in which a selective action on the vascular endothelial
XX cells in the absence of excessive tissue proliferation is desirable.
XX See also AA08001.

XX Sequence 191 AA;

Query Match 100.0%; Score 654; DB 11; Length 191;
Best Local Similarity 100.0%; Pred. No. 1e-64;

Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHWSLALLLYLHAKMSOAPMAEGGONHHEVVFMDVYORSYCHPIETLVD 60
 |||||||
 Db 1 mnflswwhwsialllylhakmsgaapmaegggqnhhevkfmdivygrsychnpietlvd 60
 |||||||
 OY 61 IFQEXPDIEIYIFKPSVPLMRGCGCCNDEGLECVPTESNITWQIMRIKPHQGH 116
 |||||||
 Db 61 ifqeypdeleylffkpscvplmrccgcndeglecvpteesnltmqimrlikphqgh 116
 |||||||

RESULT 15

AAR91076
 ID AAR91076 standard; Protein: 191 AA.

AC AAR91076;

DT 14-MAY-1996 (first entry)

DE Human vascular endothelial growth factor-165, VEGF-165.

XX
 KW Conjugate; growth factor; FGF; cytotoxin; saporin; eye; regulation;
 cell proliferation; psoriasis; pterygia; corneal clouding; cancer;
 rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
 heparin binding.

OS Homo sapiens.

XX
 FH Key Location/Qualifiers
 FT Peptide 1..26
 FT /label- sig_peptide
 FT Protein 27..191
 FT /label- VEGF-165

XX MN09524928-A2.

XX 21-SEP-1995.

XX PD 15-MAR-1995; 95MO-US03448.

XX PE 15-MAR-1994; 94US-0213447.

XX PR 15-MAR-1994; 94US-0213446.

XX PA (PRIZ-) PRIZM PHARM INC.

XX PI Baird JA, Houston LL, Nova MP, Sosnowski BA;

XX DR WPI; 1995-336820/43.

XX N-PSDB; AAQ99081.

XX
 PT New conjugates of growth factor receptor ligand and targeted agent
 PT - partic. DNA or cytotoxin, used to control cell proliferation in
 PT the eye, e.g. to prevent growth of pterygia and corneal clouding

XX PS Disclosure; Page 185-186; 204pp; English.

XX
 CC AAR91075-R91078 are human vascular endothelial growth factors (VEGFs).
 CC DNA encoding a VEGF can be used to create a fusion protein (FP).
 CC the cDNA of which includes a nucleic acid binding domain (NBD) and
 CC encodes a heparin binding growth factor, HbGF (e.g. VEGF, FGF, HBEGF),
 CC a protein synthesis inhibitor and opt. a linker imparting flexibility
 CC to the FP. The FP can be used to target a protein synthesis inhibitor,
 CC an antisense DNA sequence or an inhibitor of elongation factor 2, to a
 CC cell carrying a HbGF receptor. The conjugates of the invention are
 CC used to inhibit cell proliferation in cells carrying the particular
 CC growth factor receptor. A specific application is to prevent
 CC excessive proliferation of epithelial cells, fibroblasts and
 CC keratinocytes in the anterior eye after surgery, partic. to prevent
 CC recurrence of pterygia after surgical removal, closure of
 CC trabeculectomy after glaucoma surgery and corneal clouding after
 CC excimer laser treatment. Other conditions which may be treated include
 CC tumours, restenosis, psoriasis, Dupuytren's contracture, diabetic
 CC complications, Kaposi's sarcoma and rheumatoid arthritis.

XX
 SQ Sequence 191 AA;

Query Match 100.0%; Score 654; DB 16; Length 191;
 Best Local Similarity 100.0%; Pred. No. 1e-64;
 Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHWSLALLLYLHAKMSOAPMAEGGONHHEVVFMDVYORSYCHPIETLVD 60
 |||||||
 Db 1 mnflswwhwsialllylhakmsgaapmaegggqnhhevkfmdivygrsychnpietlvd 60
 |||||||
 OY 61 IFQEXPDIEIYIFKPSVPLMRGCGCCNDEGLECVPTESNITWQIMRIKPHQGH 116
 |||||||
 Db 61 ifqeypdeleylffkpscvplmrccgcndeglecvpteesnltmqimrlikphqgh 116
 |||||||

Search completed: May 17, 2002, 11:22:32
 Job time: 13549 sec

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OM protein - protein search, using sw model

Run on: May 17, 2002, 07:36:43 ; Search time 60.63 Seconds
(without alignments)
46.732 Million cell updates/sec

Title: US-09-575-199-2_COPY_1_116
Perfect score: 654
Sequence: 1 MNFLSWHMSIALLLYLHHR.....TEESNITWQIMRIKPHQGH 116

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/1aa/5A.COMB.pep:*
2: /cgn2_6/ptodata/2/1aa/5B.COMB.pep:*
3: /cgn2_6/ptodata/2/1aa/6A.COMB.pep:*
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5: /cgn2_6/ptodata/2/1aa/PCtUS.COMB.pep:*
6: /cgn2_6/ptodata/2/1aa/backfilest1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	654	100.0	147	3	US-08-807-992B-1
2	654	100.0	147	4	US-09-392-932-1
3	654	100.0	191	3	US-08-567-200A-2
4	654	100.0	191	3	US-08-807-992B-2
5	654	100.0	191	3	US-08-691-794-2
6	654	100.0	191	4	US-08-795-430-56
7	654	100.0	191	4	US-09-392-932-3
8	654	100.0	191	6	US-08-671-4
9	654	100.0	214	6	US-08-807-992B-3
10	654	100.0	215	4	US-08-586-039B-49
11	654	100.0	215	4	US-08-807-992B-3
12	654	100.0	215	6	US-08-807-992B-3
13	654	100.0	232	2	US-08-999-811-7
14	654	100.0	232	2	US-08-824-996-9
15	654	100.0	232	3	US-08-807-992B-4
16	654	100.0	232	3	US-09-042-105-7
17	635.5	97.2	231	5	PCT-US96-09001-10
18	628	96.0	215	6	US-08-807-992B-3
19	587.5	89.8	190	6	US-08-586-039B-33
20	568.5	86.9	190	4	US-08-586-039B-31
21	568.5	86.9	214	4	US-08-586-039B-35
22	568.5	86.9	190	2	US-08-586-063C-20
23	560.5	85.7	189	1	US-08-463-427A-15
24	554	84.7	189	3	US-08-691-794-3
25	507	77.5	109	3	US-08-807-992B-1
26	507	77.5	110	4	US-09-392-932-11
27	507	77.5	121	6	US-08-807-992B-1

28	507	77.5	121	6	US-08-807-992B-1	Patent No. 5219739
29	507	77.5	145	3	US-08-784-551C-2	Sequence 2, Appl1
30	507	77.5	145	4	US-09-392-932-2	Sequence 2, Appl1
31	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
32	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
33	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
34	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
35	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
36	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
37	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
38	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
39	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
40	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
41	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
42	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
43	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
44	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596
45	507	77.5	165	6	US-08-586-039B-33	Patent No. 5194596

ALIGNMENTS

RESULT 1
US-08-807-992B-1
Sequence 1, Application US/08807992B
Patent No. 6022541
GENERAL INFORMATION:
APPLICANT: Senger, Donald R
TITLE OF INVENTION: Immunochemical preparation for concurrent
TITLE OF INVENTION: Specific binding to spatially exposed regions of vascula
TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated
NUMBER OF INVENTIONS: 31
CORRESPONDENCE ADDRESSES:
ADDRESS: David Prashker, Esq.
STREET: P.O. Box 5387
CITY: Magnolia
STATE: Massachusetts
COUNTRY: USA
ZIP: 01930
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: Wordperfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807, 992B
FILING DATE: March 3, 1997
CLASSIFICATION: A24
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
US-08-807-992B-1
Query Match 100.0%; Score 654; DB 3; Length 147;
Best Local Similarity 100.0%; Pred. No. 5.6e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
DB 1 MNFLSWHMSIALLLYLHHRKMSQAPPAEAGCGGNHHEVVEKMDYORSTCHPIETLVD 60

QY 61 IFQYDEIEYIFKPCVPLMRGCGCCNDGELCVPTESNITMQRIRKPHOGH 116
|||||
DB 61 IFQYDEIEYIFKPCVPLMRGCGCCNDGELCVPTESNITMQRIRKPHOGH 116

RESULT 2

US-09-392-932-1

; Sequence 1, Application US/09392932
; Patent No. 6352975
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; FILE REFERENCE: SCIOS.002A
; CURRENT APPLICATION NUMBER: US/09/392,932
; EARLIER FILING DATE: 1999-09-09
; EARLIER APPLICATION NUMBER: 60/099,694
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-1

Query Match 100.0%; Score 654; DB 4; Length 147;
Best Local Similarity 100.0%; Pred. No. 5.6e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSNVHMSLALLYLHAKMSQAAPMAEGGONHHEVYKFMVYQSYCHPIETLYD 60
|||||
DB 1 MNFLSNVHMSLALLYLHAKMSQAAPMAEGGONHHEVYKFMVYQSYCHPIETLYD 60
QY 61 IFQYDEIEYIFKPCVPLMRGCGCCNDGELCVPTESNITMQRIRKPHOGH 116
|||||
DB 61 IFQYDEIEYIFKPCVPLMRGCGCCNDGELCVPTESNITMQRIRKPHOGH 116

RESULT 3

US-08-567-200A-2

; Sequence 2, Application US/08567200A
; Patent No. 6020473
; GENERAL INFORMATION:
; APPLICANT: Keyt, Bruce A.
; APPLICANT: Nguyen, Francis H.
; APPLICANT: Ferrara, Napoleone
; TITLE OF INVENTION: Variants of Vascular Endothelial Cell
; TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
; TITLE OF INVENTION: Production
; NUMBER OF SEQUENCES: 42
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Flehr, Hohnach, Test, Albritten & Herbert
; STREET: Four Embarcadero Center, Suite 3400
; CITY: San Francisco
; STATE: California
; COUNTRY: United States
; ZIP: 94111-4187
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/567,200A
; FILING DATE: 05-DEC-1995
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Dreger, Walter H.
; REGISTRATION NUMBER: 24,190

; REFERENCE/DOCKET NUMBER: A-62326-1/MHD
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 781-1989
; TELEFAX: (415) 398-3249
; TELEX: 910 277299
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-567-200A-2

Query Match 100.0%; Score 654; DB 3; Length 191;
Best Local Similarity 100.0%; Pred. No. 7.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSNVHMSLALLYLHAKMSQAAPMAEGGONHHEVYKFMVYQSYCHPIETLYD 60
|||||
DB 1 MNFLSNVHMSLALLYLHAKMSQAAPMAEGGONHHEVYKFMVYQSYCHPIETLYD 60
QY 61 IFQYDEIEYIFKPCVPLMRGCGCCNDGELCVPTESNITMQRIRKPHOGH 116
|||||
DB 61 IFQYDEIEYIFKPCVPLMRGCGCCNDGELCVPTESNITMQRIRKPHOGH 116

RESULT 4

US-08-807-992B-2

; Sequence 2, Application US/08807992B
; Patent No. 6022541
; GENERAL INFORMATION:
; APPLICANT: Senger, Donald R
; APPLICANT: Dvorak, Harold F
; TITLE OF INVENTION: Immunological preparation for concurrent
; TITLE OF INVENTION: specific binding to spatially exposed regions of vascular
; TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated bl
; TITLE OF INVENTION: vessel
; NUMBER OF SEQUENCES: 31
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: David Prashker, Esq.
; STREET: P.O. Box 5387
; CITY: Magnolia
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 01930
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
; COMPUTER: IBM PS/1
; OPERATING SYSTEM: MS DOS
; SOFTWARE: Wordperfect version 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/807,992B
; FILING DATE: March 3, 1997
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: David Prashker, Esq.
; REGISTRATION NUMBER: 29,693
; REFERENCE/DOCKET NUMBER: BIS-033
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (978) 525-3794
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-807-992B-2

Query Match 100.0%; Score 654; DB 3; Length 191;
Best Local Similarity 100.0%; Pred. No. 7.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHMSLALLYLTHAKWSQAPMAEGGCGNHHEVVKFMDVYORSYCHPIETLVD 60
DB 1 MNFLSWHMSLALLYLTHAKWSQAPMAEGGCGNHHEVVKFMDVYORSYCHPIETLVD 60
OY 61 IFQEVPEIETIYIFKPSVPLMRGCGCNDGECVPTESNITMOMIRKPHGOGH 116
DB 61 IFQEVPEIETIYIFKPSVPLMRGCGCNDGECVPTESNITMOMIRKPHGOGH 116

RESULT 5
US-08-691-794-2
Sequence 2, Application US/08691794
Patent No. 6057428
GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dregert, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-691-794-2

Query Match 100.0%; Score 654; DB 3; Length 191;
Best Local Similarity 100.0%; Pred. No. 7.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHMSLALLYLTHAKWSQAPMAEGGCGNHHEVVKFMDVYORSYCHPIETLVD 60
DB 1 MNFLSWHMSLALLYLTHAKWSQAPMAEGGCGNHHEVVKFMDVYORSYCHPIETLVD 60
OY 61 IFQEVPEIETIYIFKPSVPLMRGCGCNDGECVPTESNITMOMIRKPHGOGH 116

DB 61 IFQEVPEIETIYIFKPSVPLMRGCGCNDGECVPTESNITMOMIRKPHGOGH 116

RESULT 6
US-08-795-430-56
Sequence 56, Application US/08795430
Patent No. 6130071
GENERAL INFORMATION:
APPLICANT: Alltalo, Karl
APPLICANT: Joukov, Vladimir
TITLE OF INVENTION: Vascular Endothelial Growth Factor C (VEGF-C)
TITLE OF INVENTION: Protein and Gene, Mutants thereof, and Uses Thereof
NUMBER OF SEQUENCES: 57
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
STREET: 6300 Sears Tower, 233 South Wacker Drive
CITY: Chicago
STATE: Illinois
COUNTRY: United States of America
ZIP: 60606-6402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/795,430
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR96/00427
FILING DATE: 01-AUG-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/671,573
FILING DATE: 28-JUN-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/601,132
FILING DATE: 14-FEB-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/585,895
FILING DATE: 12-JAN-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/510,133
FILING DATE: 01-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/340,011
FILING DATE: 14-NOV-1994
ATTORNEY/AGENT INFORMATION:
NAME: Gass, David A.
REGISTRATION NUMBER: 38,153
REFERENCE/DOCKET NUMBER: 28967/33691
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
TELEFAX: 312/474-0448
TELEX: 25-3856
INFORMATION FOR SEQ ID NO: 56:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-795-430-56

Query Match 100.0%; Score 654; DB 4; Length 191;
Best Local Similarity 100.0%; Pred. No. 7.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNFLSWHMSLALLYLTHAKWSQAPMAEGGCGNHHEVVKFMDVYORSYCHPIETLVD 60
DB 1 MNFLSWHMSLALLYLTHAKWSQAPMAEGGCGNHHEVVKFMDVYORSYCHPIETLVD 60

QY 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116
|||||
DB 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116

RESULT 7
US-09-392-932-3

; Sequence 3, Application US/09392932
; Patent No. 6352975
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; FILE REFERENCE: SCIOS.002A
; CURRENT APPLICATION NUMBER: US/09/392,932
; EARLIER FILING DATE: 1999-09-09
; EARLIER FILING DATE: 1998-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO: 3
; LENGTH: 191
; TYPE: PRF
; ORGANISM: Homo Sapiens
US-09-392-932-3

Query Match 100.0%; Score 654; DB 4; Length 191;
Best Local Similarity 100.0%; Pred. No. 7.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHNSIALLLYLHAKMSQAAPMAEGGQNHHEVYKFMVDYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHNSIALLLYLHAKMSQAAPMAEGGQNHHEVYKFMVDYQRSYCHPIETLVD 60

QY 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116
|||||
DB 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116

RESULT 8
5332671-4

; Patent No. 5332671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W. H.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR AND DNA ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/389,722
; FILING DATE: 04-AUG-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 369,424
; FILING DATE: 21-JUN-1989
; APPLICATION NUMBER: 351,117
; FILING DATE: 12-MAY-1989
; SEQ ID NO: 4
; LENGTH: 191
5332671-4

Query Match 100.0%; Score 654; DB 6; Length 191;
Best Local Similarity 100.0%; Pred. No. 7.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHNSIALLLYLHAKMSQAAPMAEGGQNHHEVYKFMVDYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHNSIALLLYLHAKMSQAAPMAEGGQNHHEVYKFMVDYQRSYCHPIETLVD 60

QY 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116
|||||
DB 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116

RESULT 9
5240848-11

; Patent No. 5240848
; APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH
; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
; NUMBER OF SEQUENCES: 11
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/337,037
; FILING DATE: 10-JUL-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 274,061
; FILING DATE: 21-NOV-1988
; SEQ ID NO: 11
; LENGTH: 214
5240848-11

Query Match 100.0%; Score 654; DB 6; Length 214;
Best Local Similarity 100.0%; Pred. No. 8.7e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHNSIALLLYLHAKMSQAAPMAEGGQNHHEVYKFMVDYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHNSIALLLYLHAKMSQAAPMAEGGQNHHEVYKFMVDYQRSYCHPIETLVD 60

QY 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116
|||||
DB 61 IFQYEPDEIEYIFKPCVPLMRGCGCNDGELCVPTEESNITMOIRIRPHOGH 116

RESULT 10
US-08-807-992B-3

; Sequence 3, Application US/08807992B
; Patent No. 6022541
; GENERAL INFORMATION:
; APPLICANT: Senger, Donald R
; APPLICANT: Dvorak, Harold F
; TITLE OF INVENTION: Immunological preparation for concurrent
; TITLE OF INVENTION: specific binding to spatially exposed regions of vascular
; TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated b1
; NUMBER OF SEQUENCES: 31
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: David Prashker, Esq.
; STREET: P.O. Box 5387
; CITY: Magnolia
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 01930
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.50 inch, 1.40 MB storage
; COMPUTER: IBM PS/1
; OPERATING SYSTEM: MS DOS
; SOFTWARE: Nordperfect version 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/807,992B
; FILING DATE: March 3, 1997
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: David Prashker, Esq
; REGISTRATION NUMBER: 29,693
; REFERENCE/DOCKET NUMBER: BIS-033
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (978) 525-3794
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 215 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear

US-08-807-992B-3

Query Match 100.0%; Score 654; DB 3; Length 215;
Best Local Similarity 100.0%; Pred. No. 8.8e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWVHMSLALLYLHAKMSQAAPAEAGGONHHEVVKFMDYQORSCHPIETLVD 60
|||||
DB 1 MNFLSWVHMSLALLYLHAKMSQAAPAEAGGONHHEVVKFMDYQORSCHPIETLVD 60

QY 61 IFQEPDEIEYIFKPSVPLMRCGCCNDGELCVPTEESNTITQIMRIKPHOGH 116
|||||
DB 61 IFQEPDEIEYIFKPSVPLMRCGCCNDGELCVPTEESNTITQIMRIKPHOGH 116

RESULT 11
US-08-586-039B-49
; Sequence 49, Application US/08586039B
; Patent No. 6140073

GENERAL INFORMATION:

APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
TITLE OF INVENTION: SUBUNIT
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
CITY: Rahway
STATE: New Jersey
COUNTRY: USA
ZIP: 07065-0900

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/586,039B
FILING DATE: 16-JAN-1996

CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993

APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark

REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 183610A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3905
TELEFAX: (908) 594-4720

INFORMATION FOR SEQ ID NO: 49:
SEQUENCE CHARACTERISTICS:
LENGTH: 215 amino acids
TYPE: amino acid

TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-586-039B-49

Query Match 100.0%; Score 654; DB 4; Length 215;
Best Local Similarity 100.0%; Pred. No. 8.8e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWVHMSLALLYLHAKMSQAAPAEAGGONHHEVVKFMDYQORSCHPIETLVD 60
|||||
DB 1 MNFLSWVHMSLALLYLHAKMSQAAPAEAGGONHHEVVKFMDYQORSCHPIETLVD 60

QY 61 IFQEPDEIEYIFKPSVPLMRCGCCNDGELCVPTEESNTITQIMRIKPHOGH 116
|||||

DB 61 IFQEPDEIEYIFKPSVPLMRCGCCNDGELCVPTEESNTITQIMRIKPHOGH 116

RESULT 12

5240848-7

; Patent No. 5240848
APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH
TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
NUMBER OF SEQUENCES: 11

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/337,037

FILING DATE: 10-JUL-1989

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061

FILING DATE: 21-NOV-1988

SEQ ID NO: 7;
LENGTH: 215

5240848-7

Query Match 100.0%; Score 654; DB 6; Length 215;
Best Local Similarity 100.0%; Pred. No. 8.8e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWVHMSLALLYLHAKMSQAAPAEAGGONHHEVVKFMDYQORSCHPIETLVD 60
|||||
DB 1 MNFLSWVHMSLALLYLHAKMSQAAPAEAGGONHHEVVKFMDYQORSCHPIETLVD 60

QY 61 IFQEPDEIEYIFKPSVPLMRCGCCNDGELCVPTEESNTITQIMRIKPHOGH 116
|||||
DB 61 IFQEPDEIEYIFKPSVPLMRCGCCNDGELCVPTEESNTITQIMRIKPHOGH 116

RESULT 13

US-08-999-811-7

; Sequence 7, Application US/08999811
; Patent No. 5932540

GENERAL INFORMATION:

APPLICANT: HU, JING-SHAN
APPLICANT: ROSEN, CRAIG A.

TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
NUMBER OF SEQUENCES: 15

CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX

STREET: 1100 NEW YORK AVENUE

CITY: WASHINGTON

STATE: DC
COUNTRY: USA

ZIP: 20005

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/999,811

FILING DATE: HERewith

CLASSIFICATION:
PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/207,550
FILING DATE: 8-MAR-1994

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/465,968

FILING DATE: 06-JUN-1995

ATTORNEY/AGENT INFORMATION:
NAME: MARKOWICZ, KAREN R.

REGISTRATION NUMBER: 36,351

REFERENCE/DOCKET NUMBER: 1488,1000004

TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)371-2600

TELEFAX: (202)371-2540

INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 232 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: not relevant
MOLECULE TYPE: protein
US-08-999-811-7

Query Match 100.0%; Score 654; DB 2; Length 232;
Best Local Similarity 100.0%; Pred. No. 9.6e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHMSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMVDYQRSYCHPIETLVD 60
DB 1 MNFLSWHMSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMVDYQRSYCHPIETLVD 60
QY 61 IFOEYDEIEYIFKPSVPLMRGCGCNDGELCVPTESNITMQRIRPHOGH 116
DB 61 IFOEYDEIEYIFKPSVPLMRGCGCNDGELCVPTESNITMQRIRPHOGH 116

RESULT 14
US-08-824-996-9
Sequence 9, Application US/08824996B
Patent No. 5935820
GENERAL INFORMATION:
APPLICANT: Hu, Jing-Shan
APPLICANT: Rosen, Craig A.
APPLICANT: Cao, Liang
TITLE OF INVENTION: Polynucleotides Encoding Vascular Endothelial Growth
FILE OF INVENTION: Factor 2
FILE REFERENCE: PF112D1
CURRENT APPLICATION NUMBER: US/08/824,996B
CURRENT FILING DATE: 1997-03-27
EARLIER APPLICATION NUMBER: 08/207,550
EARLIER FILING DATE: 1994-03-08
NUMBER OF SEQ ID NOS: 9
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 9
LENGTH: 232
TYPE: PRT
ORGANISM: Homo sapiens
US-08-824-996-9

Query Match 100.0%; Score 654; DB 2; Length 232;
Best Local Similarity 100.0%; Pred. No. 9.6e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHMSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMVDYQRSYCHPIETLVD 60
DB 1 MNFLSWHMSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMVDYQRSYCHPIETLVD 60
QY 61 IFOEYDEIEYIFKPSVPLMRGCGCNDGELCVPTESNITMQRIRPHOGH 116
DB 61 IFOEYDEIEYIFKPSVPLMRGCGCNDGELCVPTESNITMQRIRPHOGH 116

RESULT 15
US-08-807-992B-4
Sequence 4, Application US/08807992B
Patent No. 6022541
GENERAL INFORMATION:
APPLICANT: Seeger, Donald R
APPLICANT: Dvorak, Harold F
TITLE OF INVENTION: Immunological preparation for concurrent
TITLE OF INVENTION: specific binding to spatially exposed regions of vascular
TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated blood
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:

ADDRESSEE: David Prashker, Esq.
STREET: P.O. Box 5387
CITY: Magnolia
STATE: Massachusetts
COUNTRY: USA
ZIP: 01930
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: Wordperfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 232 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
US-08-807-992B-4

Query Match 100.0%; Score 654; DB 3; Length 232;
Best Local Similarity 100.0%; Pred. No. 9.6e-68;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNFLSWHMSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMVDYQRSYCHPIETLVD 60
DB 1 MNFLSWHMSLALLYLHAKWSQAAPMAEGGQNHHEVVKFMVDYQRSYCHPIETLVD 60
QY 61 IFOEYDEIEYIFKPSVPLMRGCGCNDGELCVPTESNITMQRIRPHOGH 116
DB 61 IFOEYDEIEYIFKPSVPLMRGCGCNDGELCVPTESNITMQRIRPHOGH 116

Search completed: May 17, 2002, 11:23:46
Job time: 13623 sec

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OM protein - protein search, using sw model

Run on: May 17, 2002, 07:36:43 ; Search time 63.72 seconds
(without alignments)
174.927 Million cell updates/sec

Title: US-09-575-199-2_COPY_1_116
Perfect score: 654
Sequence: 1 MNFLISVHWMSIALLLLYLHH.....TEESNITWQIMRIKPHOGCH 116

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

PIR_71: *
1: p1r1: *
2: p1r2: *
3: p1r3: *
4: p1r4: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	654	100.0	232	2 A41551	vascular endotheli
2	600.5	91.8	190	2 S52130	vascular endotheli
3	587.5	89.8	190	2 B40080	vascular endotheli
4	584.5	89.4	146	2 S57956	ovine vascular end
5	569.5	87.1	190	2 B44881	vascular endotheli
6	569.5	87.1	214	2 A44881	vascular endotheli
7	568.5	86.9	190	2 A35987	glioma-derived vas
8	440.5	67.4	120	2 A33787	vascular endotheli
9	271	41.4	128	2 T51295	vascular endotheli
10	266	40.7	149	2 A41236	placental growth f
11	255.5	39.1	158	2 A56125	placental growth f
12	197.5	30.2	188	2 J04680	vascular endotheli
13	197.5	30.2	207	2 J04679	vascular endotheli
14	186	28.4	133	2 B49530	vascular endotheli
15	157	24.0	419	2 S69207	vascular endotheli
16	137.5	21.0	36	2 A60706	vascular endotheli
17	135	20.6	148	2 D49530	16K vascular endot
18	94	14.4	226	1 TVMVS	PDGF-related trans
19	94	14.4	241	1 TVMVS	platelet-derived g
20	94	14.4	245	1 TVMVS	platelet-derived g
21	94	14.4	271	2 A25669	PDGF-related trans
22	89	13.6	166	2 JN0248	platelet-derived g
23	89	13.6	196	2 B28964	platelet-derived g
24	89	13.6	196	2 A48851	platelet-derived g
25	89	13.6	197	2 J50735	platelet-derived g
26	89	13.6	198	2 J50735	platelet-derived g
27	89	13.6	211	1 PFM061	platelet-derived g
28	88	13.5	200	2 I51551	platelet-derived g
29	88	13.5	215	2 S08220	platelet-derived g

30 88 13.5 226 2 I51550 platelet-derived g
31 87.5 13.4 225 2 S25097 platelet-derived g
32 87.5 13.4 241 1 PFM061 platelet-derived g
33 86 13.1 196 2 A37359 platelet-derived g
34 79.5 12.2 1179 2 AG1101 transcription-repa
35 77.5 11.9 1179 2 AG1463 transcription-repa
36 75 11.5 21 2 A56901 nerve growth facto
37 74 11.3 466 2 A23685 interstitial colla
38 73 11.2 782 2 H90823 probable secreted
39 72 11.0 340 2 T41757 ACNMPV orf11 - Bom
40 72 11.0 340 2 T27851 Acorf-11 protein -
41 71.5 10.9 2171 2 E86342 hypotetical prote
42 70 10.7 471 2 A53711 collagenase 3 (EC
43 69.5 10.6 1883 2 T13944 chromodomain-helic
44 68.5 10.5 370 2 J07592 spinal cord-derive
45 68.5 10.5 859 2 S69700 hypothetical prote

ALIGNMENTS

RESULT 1
A41551
vascular endothelial growth factor 206 precursor - human
N:Alternate names: vascular permeability factor
M:Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189;
C:Species: Homo sapiens (man)
C:Date: 28-Aug-1992 #sequence revision 28-Aug-1992 #text change 05-Nov-1999
C:Accession: A41551; C41551; B41551; A40454; B40454; A40079; A40080; J01465;
R:Heuck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991
A:Title: The vascular endothelial growth factor family: identification of a fourth
A:Reference number: A41551; MUID:92168017
A:Accession: A41551
A:Molecule type: mRNA
A:Residues: 1-232 <H001>
A:Cross-references: GB:S85192; NID:9246155; PID:9246156
A:Accession: C41551
A:Status: nucleic acid sequence not shown
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <H002>
A:Accession: B41551
A:Status: nucleic acid sequence not shown; not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-141, 227-232 <H00>
R:Fischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.
J. Biol. Chem. 266, 11947-11954, 1991
A:Title: The human gene for vascular endothelial growth factor. Multiple protein f
A:Reference number: A40454; MUID:91268072
A:Accession: A40454
A:Molecule type: DNA
A:Residues: 1-165, 183-232 <T1>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975;
A:Accession: B40454
A:Molecule type: DNA
A:Residues: 1-140, 'N', 183-232 <T1>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975;
A:Accession: C40454
A:Molecule type: DNA
A:Residues: 1-141, 227-232 <T1>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975;
R:Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly,
Science 246, 1309-1312, 1989
A:Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF
A:Reference number: A40079; MUID:90069609
A:Accession: A40079
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-165, 183-232 <REC>
A:Cross-references: GB:M27281; NID:9340300; PID:9340301
R:Leung, D.W.; Cachianes, G.; Kiang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.

A:Reference number: A40080; MUID:90069608
A:Accession: A40080
A>Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <LEU>
A:Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
R:Meindl, K.; Mame, D.; Welch, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A:Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A:Reference number: J01463; MUID:92231879
A:Accession: J01463
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <MEI>
A:Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.1; PID:g37659
A:Experimental source: AIDS-Kaposi's sarcoma cell
A:Accession: J01464
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 227-232 <ME2>
A:Experimental source: AIDS-Kaposi's sarcoma cell
R:Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monseil, R.; Siegel, N.; Hay
J. Biol. Chem. 264, 20017-20024, 1989
A:Title: Human vascular permeability factor. Isolation from U937 cells.
A:Reference number: A34492; MUID:90062112
A:Accession: A34492
A:Molecule type: protein
A:Residues: 27-36/43-49, 'R', 72-76, 'Q', 78-81, 59-71 <CON>
A:Comment: The most common of several alternatively spliced forms is VEGF 165.
C:Genetics:
A:Gene: GDB:VEGF
A:Cross-references: GDB:132244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A:Description: promotes fluid and protein leakage from blood vessels
A:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
F:1-332/Product: vascular endothelial growth factor 206 precursor #status predicted <V20
F:1-165, 183-232/Product: vascular endothelial growth factor 189 precursor #status predic
F:1-141, 227-232/Product: vascular endothelial growth factor 121 precursor #status predic
F:1-26/Domain: signal sequence #status predicted <SIG>
F:101/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 100.0%; Score 654; DB 2; Length 232;
Best Local Similarity 100.0%; Pred. No. 3, 4e-61;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNFLSWHMSIALLLYHHAHAKWSQAAPMAEGGQNHHEVYKFMVDYORSCHPLETLVD 60
DB 1 MNFLSWHMSIALLLYHHAHAKWSQAAPMAEGGQNHHEVYKFMVDYORSCHPLETLVD 60
QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDEGLCEVPTESNTITQIMIRKPHQGH 116
DB 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDEGLCEVPTESNTITQIMIRKPHQGH 116
RESULT 2
S52130
Vascular endothelial growth factor - pig
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C:Accession: S52130
R:Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A:Title: Nucleotide sequence and expression of the porcine vascular endothelial growth
A:Reference number: S52130; MUID:95145284
A:Accession: S52130
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <SHR>
A:Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560

Query Match 91.8%; Score 600.5; DB 2; Length 190;
Best Local Similarity 94.8%; Pred. No. 1, 2e-55;

Matches 110; Conservative 0; Mismatches 5; Indels 1; Gaps 1;
QY 1 MNFLSWHMSIALLLYHHAHAKWSQAAPMAEGGQNHHEVYKFMVDYORSCHPLETLVD 60
DB 1 MNFLSWHMSIALLLYHHAHAKWSQAAPMAEGGQNHHEVYKFMVDYORSCHPLETLVD 59
QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDEGLCEVPTESNTITQIMIRKPHQGH 116
DB 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDEGLCEVPTESNTITQIMIRKPHQGH 115

RESULT 3
B40080
Vascular endothelial growth factor precursor (version 2) - bovine
C:Species: Bos primigenius taurus (cattle)
C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C:Accession: B40080; B33787; A33255
R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A:Reference number: A40080; MUID:90069608
A:Accession: B40080
A:Molecule type: mRNA
A:Residues: 1-190 <LEU>
A:Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R:Rischert, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; C
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A:Title: Vascular endothelial growth factor: a new member of the platelet-derived gr
A:Reference number: A33787; MUID:90121225
A:Accession: B33787
A:Molecule type: mRNA
A:Residues: 27-190 <TIS>
A:Cross-references: GB:M1836; NID:g163808; PIDN:AAA30804.1; PID:g163809
R:Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A:Title: Placental follicular cells secrete a novel heparin-binding growth factor sp
A:Reference number: A33255; MUID:89286596
A:Accession: A33255
A:Molecule type: protein
A:Residues: 27-31 <FE>
C:Keywords: alternative splicing; glycoprotein
F:1-26/Domain: signal sequence #status predicted <SIG>
F:27-190/Product: vascular endothelial growth factor #status predicted <MAR>
F:100/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 89.8%; Score 587.5; DB 2; Length 190;
Best Local Similarity 92.2%; Pred. No. 2, 7e-54;
Matches 107; Conservative 2; Mismatches 6; Indels 1; Gaps 1;
QY 1 MNFLSWHMSIALLLYHHAHAKWSQAAPMAEGGQNHHEVYKFMVDYORSCHPLETLVD 60
DB 1 MNFLSWHMSIALLLYHHAHAKWSQAAPMAEGGQNHHEVYKFMVDYORSCHPLETLVD 59
QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDEGLCEVPTESNTITQIMIRKPHQGH 116
DB 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDEGLCEVPTESNTITQIMIRKPHQGH 115
RESULT 4
S57956
ovine vascular endothelial growth factor - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
C:Accession: S57956
R:Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
submitted to the EMBL Data Library, July 1995
A:Reference number: S57956
A:Accession: S57956
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 <RED>
A:Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351

Query Match 89.4%; Score 584.5; DB 2; Length 146;
Best Local Similarity 91.4%; Pred. No. 4,3e-54;
Matches 106; Conservative 3; Mismatches 6; Indels 1; Gaps 1;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGQNHHEVVKFMDVYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHMSLALLYLHNAKWSQAAPMAE-GGQKPEYVKFMDVYQRSYCHPIETLVD 59
|||||

QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 116
|||||
DB 60 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 115
|||||

RESULT 5
B44881
Vascular endothelial growth factor-1 precursor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C:Accession: B44881; A43351; A61029
R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A:Title: Expression of Vascular endothelial growth factor during embryonic angiogenesis
A:Reference number: A44881; MUID:92274860
A:Accession: B44881
A:Molecule type: mRNA
A:Residues: 1-190 <BRE>
A:Cross-references: GB:S38083; NID:g249858; PIDN:AA82253.1; PID:g249859
A:Experimental source: embryo
A:Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBI:P.107623)
R:Caffrey, K.P.; Milkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
A:Reference number: A43351; MUID:92355593
A:Accession: A43351
A:Molecule type: mRNA
A:Residues: 1-116, 'ER', 119-190 <CLIA>
A:Cross-references: GB:M95300; NID:g202350; PIDN:AAA40547.1; PID:g202351
A:Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBI:P.110675)
R:Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
A:Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
A:Reference number: A61029; MUID:91197543
A:Accession: A61029
A:Molecule type: protein
A:Residues: 27-38 <ROS>
C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

Query Match 87.1%; Score 569.5; DB 2; Length 190;
Best Local Similarity 88.8%; Pred. No. 2.1e-52;
Matches 103; Conservative 2; Mismatches 10; Indels 1; Gaps 1;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGQNHHEVVKFMDVYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHMSLALLYLHNAKWSQAAPTE-GEQKSHVYKFMVYQRSYCHPIETLVD 59
|||||

QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 116
|||||
DB 60 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 115
|||||

RESULT 6
A44881
Vascular endothelial growth factor-3 precursor - mouse
N:Contigs: vascular endothelial growth factor-2; Vascular permeability factor
C:Species: Mus musculus (house mouse)
C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C:Accession: A44881; C44881; A60932; S52136
R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis

A:Reference number: A44881; MUID:92274860
A:Accession: A44881
A:Molecule type: mRNA
A:Residues: 1-214 <BRE>
A:Cross-references: GB:S37052; NID:g249856; PIDN:AA82253.1; PID:g249857
A:Experimental source: embryo
A:Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBI:P.104678)
A:Accession: C44881
A:Molecule type: mRNA
A:Residues: 1-140, 209-214 <BR2>
A:Cross-references: GB:S38100; NID:g249860; PIDN:AA82254.1; PID:g249861
A:Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBI:P.107625)
R:Claus, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan
J. Exp. Med. 172, 1535-1545, 1990
A:Title: Vascular permeability factor: a tumor-derived polypeptide that induces en
A:Reference number: A60932; MUID:91079755
A:Accession: A60932
A:Molecule type: protein
A:Residues: 27-33 <CLIA>
R:Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A:Title: Enhanced expression of multiple forms of VEGF is associated with spontane
A:Reference number: S52136; MUID:95101726
A:Accession: S52136
A:Status: preliminary
A:Molecule type: protein
A:Residues: 27-46 <SUG>
C:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; hom
F:1,26/Domain: signal sequence #status predicted <SIG>
F:27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>

Query Match 87.1%; Score 569.5; DB 2; Length 214;
Best Local Similarity 88.8%; Pred. No. 2.4e-52;
Matches 103; Conservative 2; Mismatches 10; Indels 1; Gaps 1;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGQNHHEVVKFMDVYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHMSLALLYLHNAKWSQAAPTE-GEQKSHVYKFMVYQRSYCHPIETLVD 59
|||||

QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 116
|||||
DB 60 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 115
|||||

RESULT 7
A35987
glioma-derived vascular endothelial cell growth factor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C:Accession: A35987
R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Kyok, P.W.; Sullivan, K.A.; Palis, T.M.;
Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A:Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that
A:Reference number: A35987; MUID:90207249
A:Accession: A35987
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <CON>
A:Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288

Query Match 86.9%; Score 568.5; DB 2; Length 190;
Best Local Similarity 88.8%; Pred. No. 2.7e-52;
Matches 103; Conservative 2; Mismatches 10; Indels 1; Gaps 1;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGQNHHEVVKFMDVYQRSYCHPIETLVD 60
|||||
DB 1 MNFLSWHMSLALLYLHNAKWSQAAPTE-GEQKSHVYKFMVYQRSYCHPIETLVD 59
|||||

QY 61 IFQEPDEIEYIFKPCVPLMRGCGCCNDGLEGVPTPEESNITMQIMRIKPHQSOH 116
|||||

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: May 17, 2002, 11:23:47 ; Search time 63.16 Seconds

(without alignments)
71.113 Million cell updates/sec

Title: US-09-575-199-2_COPY_1_116

Perfect score: 654
Sequence: 1 MNFLLSWHMSLALLYLH.....TEESNTTMOIMRIKPHOGH 116

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : SwissProt_40.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	654	100.0	232	1 VEGA_HUMAN	P15692 homo sapien
2	600.5	91.8	190	1 VEGA_PIG	P49151 sus scrofa
3	595.5	91.1	214	1 VEGA_CANFA	Q9MYV3 canis faml
4	587.5	89.8	190	1 VEGA_BOVIN	P15691 bos taurus
5	584.5	89.4	146	1 VEGA_SHEEP	P50412 ovies aries
6	583.5	89.2	190	1 VEGA_HORSE	Q98K10 equus cabal
7	569.5	87.1	214	1 VEGA_MOUSE	Q00731 mus musculu
8	568.5	86.9	214	1 VEGA_RAT	P16612 rattus norv
9	562.5	86.0	190	1 VEGA_MESAU	P52582 gallus gail
10	459	70.2	216	1 VEGA_CHICK	P26617 cavia porce
11	422.5	64.6	164	1 VEGA_CAVPO	P49764 mus musculu
12	274.5	42.0	158	1 VEGA_MOUSE	P49763 homo sapien
13	266	40.7	221	1 VEGA_HUMAN	P49763 homo sapien
14	263	40.2	149	1 PIGF_BOVIN	O9XS47 bos taurus
15	255.5	39.1	158	1 PIGF_RAT	O63434 rattus norv
16	199.5	30.5	207	1 VEGF_BOVIN	O9XS49 bos taurus
17	197.5	30.2	207	1 VEGF_HUMAN	P49765 homo sapien
18	197.5	30.2	207	1 VEGF_MOUSE	P49766 mus musculu
19	182	27.8	133	1 VEGH_OREN2	P52584 ort vitus (
20	177	27.1	135	1 VEGH_RAT	O33485 rattus norv
21	161.5	24.7	135	1 VEGD_MOUSE	P97946 mus musculu
22	158.5	24.2	354	1 VEGD_HUMAN	O43915 homo sapien
23	157	24.0	419	1 VEGC_HUMAN	P49767 homo sapien
24	155.5	23.8	326	1 VEGD_RAT	O35251 rattus norv
25	149.5	22.9	415	1 VEGC_MOUSE	P97953 mus musculu
26	135	20.6	148	1 VEGH_MOUSE	P52585 ort vitus (
27	98	15.0	241	1 PDGB_SHEEP	O95128 ovies aries
28	94	14.4	226	1 TSIS_SMSAY	P01128 simian sarc
29	94	14.4	241	1 PDGB_HUMAN	P01127 felis silve
30	89	13.6	245	1 PDGB_PELCA	P13919 felis silve
31	89	13.6	28	1 ICP_VIPLE	P82475 vipera lebe
32	89	13.6	204	1 PDGA_RAT	P28576 rattus norv
33	89	13.6	211	1 PDGA_HUMAN	P04085 homo sapien

34	89	13.6	211	1 PDGA_MOUSE	P20033 mus musculu
35	89	13.6	213	1 PDGA_RABIT	P34007 oryctolagus
36	88	13.5	226	1 PDGA_XENLA	P13698 xenopus lae
37	87.5	13.4	225	1 PDGB_RAT	O05028 rattus norv
38	87.5	13.4	241	1 PDGB_MOUSE	P31240 mus musculu
39	87.5	13.3	126	1 VEGC_RAT	O35757 rattus norv
40	87	13.3	241	1 VANA_PSEEP	O05616 pseudomona
41	74	11.3	354	1 MM13_RAT	P23097 rattus norv
42	72	11.0	340	1 Y011_NPVAC	P41421 autographa
43	71.5	10.9	471	1 MM13_RABIT	O62806 oryctolagus
44	70	10.7	471	1 MM13_HUMAN	P45452 homo sapien
45	68.5	10.5	934	1 CO6_HUMAN	P13671 homo sapien

ALIGNMENTS

RESULT	ID	VEGA_HUMAN	STANDARD:	PRT:	232 AA.
AC	P15692	Q16889	O60720	O75875	Q9UL23
DT	01-MAR-1990	(Rel. 14. Created)			
DT	01-MAR-2002	(Rel. 41, Last sequence update)			
DT	01-MAR-2002	(Rel. 41, Last annotation update)			
DE	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).				
GN	VEGF OR VEGFA.				
OS	Homo sapiens (Human).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.				
OX	NCBI_TaxID=9606;				
RI	[1]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189 AND VEGF165).				
RX	MEDLINE=90069608; PubMed=2479986;				
RA	Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;				
RT	"Vascular endothelial growth factor is a secreted angiogenic mitogen.";				
RL	Science 246:1306-1309(1989).				
RN	[2]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.				
RX	MEDLINE=90069609; PubMed=2479987;				
RA	Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J.,				
RT	Connolly D.T.;				
RL	"Vascular permeability factor, an endothelial cell mitogen related to PDGF.";				
RN	Science 246:1309-1312(1989).				
RI	[3]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189).				
RX	MEDLINE=91268072; PubMed=1711045;				
RA	Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,				
RT	Fiddes J.C., Abraham J.A.;				
RL	"The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing.";				
RN	J. Biol. Chem. 266:11947-11954(1991).				
RI	[4]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF206).				
RX	MEDLINE=92168017; PubMed=1791831;				
RA	Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;				
RT	"The vascular endothelial growth factor family: Identification of a fourth molecular species and characterization of alternative splicing of RNA.";				
RL	Mol. Endocrinol. 5:1806-1814(1991).				
RN	[5]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF165).				
RX	MEDLINE=92231879; PubMed=1567395;				
RA	Weidner K., Marime D., Welch H.A.;				
RT	"AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor.";				
RL	Biochem. Biophys. Res. Commun. 183:1167-1174(1992).				
RN	[6]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF145).				
RX	MEDLINE=97207275; PubMed=9054410;				
RA	Poltorak Z., Cohen T., Sivan R., Kandellis Y., Spira G., Vlodavsky I.,				

RA Reshet E., Neufeld G.:
RT "VEGF145, a secreted vascular endothelial growth factor isoform that
RT binds to extracellular matrix.";
RL J. Biol. Chem. 272:7151-7158(1997).
RN (17)
RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
RC TISSUE-Kidney;
RX MEDLINE-99096474; PubMed-9878851;
RA Lei J., Jiang A., Pei D.:
RT "Identification and characterization of a new splicing variant of
RT vascular endothelial growth factor: VEGF183.";
RL Biochim. Biophys. Acta 1443:400-406(1998).
RN (18)
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE-Breast;
RX MEDLINE-98119755; PubMed-9450968;
RA Claffey K.P., Shih S.-C., Mullen A., Dzielinski S., Cusick J.L.,
RA Abrams K.R., Lee S.W., Detmar M.:
RT "Identification of a human VPF/VEGF 3' untranslated region mediating
RT hypoxia-induced mRNA stability.";
RL Mol. Biol. Cell 9:469-481(1998).
RN (19)
RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
RC TISSUE-Retina;
RX MEDLINE-99165303; PubMed-10067980;
RA Jingling L., Xue Y., Agarwal N., Roque R.S.:
RT "Human Muller cells express VEGF183, a novel spliced variant of
RT vascular endothelial growth factor.";
RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
RN (10)
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE-Hemangioblastoma;
RA Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.:
RT "Human cDNA for the vascular endothelial growth factor isoform
RT VEGF165.";
RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
RN (11)
RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
RC TISSUE-Renal glomerulus;
RX MEDLINE-99394945; PubMed-10464055;
RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
RA Harper S.J.:
RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
RT and receptor mRNA expression in human glomeruli, and the
RT identification of VEGF148 mRNA, a novel truncated splice variant.";
RL Clin. Sci. 97:303-312(1999).
RN (12)
RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
RA Sato J.D., Whitney R.G.:
RT "Human cDNA for vascular endothelial growth factor isoform VEGF121.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
RN (13)
RP SEQUENCE FROM N.A.
RA Williams S.:
RT Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
RN (14)
RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
RX MEDLINE-90062112; PubMed-2584205;
RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,
RA Siegel N., Haymore B.L., Leimgruber R., Feder J.:
RT "Human vascular permeability factor. Isolation from U937 cells.";
RL J. Biol. Chem. 264:20017-20024(1989).
RN (15)
RP SEQUENCE OF 27-41.
RX MEDLINE-93145946; PubMed-7678805;
RA Kriebich B.L., Jaeger B., Schoellmann C., Weindel K., Wiltling J.,
RA Kochs G., Marne D., Hug H., Welch H.A.:
RT "Synthesis and assembly of functionally active human vascular
RT endothelial growth factor homodimers in insect cells.";
RL Eur. J. Biochem. 211:19-26(1993).
RN (16)
RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
RX MEDLINE-97352774; PubMed-9207067;

RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.:
RA de Vos A.M.:
RT "Vascular endothelial growth factor: crystal structure and functional
RT mapping of the kinase domain receptor binding site.";
RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
RN (17)
RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
RX MEDLINE-98035455; PubMed-9351807;
RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.:
RT "The crystal structure of vascular endothelial growth factor (VEGF)
RT refined to 1.93-A resolution: multiple copy flexibility and receptor
RT binding.";
RL Structure 5:1325-1338(1997).
RN (18)
RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
RX MEDLINE-99119204; PubMed-9922142;
RA Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.:
RT "Crystal structure of the complex between VEGF and a receptor-blocking
RT peptide.";
RL Biochemistry 37:17765-17772(1998).
RN (19)
RP STRUCTURE BY NMR OF 34-135.
RX MEDLINE-97477915; PubMed-9336848;
RA Fairbrother W.J., Champagne M.A., Christinger H.W., Keyt B.A.,
RA Starovasnik M.A.:
RT "H, 13C, and 15N backbone assignment and secondary structure of the
RT receptor-binding domain of vascular endothelial growth factor.";
RL Protein Sci. 6:2250-2260(1997).
RN (20)
RP STRUCTURE BY NMR OF 137-215.
RX MEDLINE-98298440; PubMed-9634701;
RA Fairbrother W.J., Champagne M.A., Christinger H.W., Keyt B.A.,
RA Starovasnik M.A.:
RT "Solution structure of the heparin-binding domain of vascular
RT endothelial growth factor.";
RL Structure 6:637-648(1998).
RN (21)
RP FUNCTION.
RX MEDLINE-21320570; PubMed-11427521;
RA Murphy J.F., Fitzgerald D.J.:
RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
RT proliferation of endothelial cells via the VEGF-2 receptor.";
RL FASEB J. 15:1667-1669(2001).
RN (22)
RP FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin. Neutrophil-1 binds isoforms VEGF-165 and VEGF-145.
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
CC VEGF165 is more basic, has heparin-binding properties and,
CC although a significant proportion remains cell-associated, most is
CC freely secreted. VEGF189 is very basic; it is cell-associated
CC after secretion and is bound avidly by heparin and the
CC extracellular matrix, although it may be released as a soluble
CC form by heparin, heparinase or plasmin.
CC -1- ALTERNATIVE PRODUCTS: 7 isoforms; VEGF206 (shown here), VEGF189,
CC VEGF183, VEGF165/VEGF, VEGF148, VEGF145 and VEGF121; may be
CC produced by alternative splicing.
CC -1- TISSUE SPECIFICITY: The VEGF189, VEGF-165 and VEGF-121 isoforms
CC are widely expressed, whereas the VEGF206 and VEGF-145 are
CC uncommon.
CC -1- INDUCTION: Regulated by growth factors, cytokines, gonadotropins,
CC nitric oxide, hypoxia, hypoglycemia and oncogenic mutations.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -1- DATABASE: NAME-Ref Systems' cytokine mini-reviews: VEGF;
CC WWW="http://www.rndsystems.com/asp/g_sitbuilder.asp?bodyid=230".
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -

Query Match 100.0%; Score 654; DB 1; Length 232;
 Best Local Similarity 100.0%; Pred. No. 1.5e-63;
 Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWVHWSLALLYLHHAHKSQAAPMAEGGQNHHEVYKFMVDYQSRCHPTELTVD 60
 DB 1 MNFLSWVHWSLALLYLHHAHKSQAAPMAEGGQNHHEVYKFMVDYQSRCHPTELTVD 60
 QY 61 IFOEYDELEYIKRPSVPLMRGCGCCNDGEGLECVPTESNITMQIMRIKPHOGH 116
 DB 61 IFOEYDELEYIKRPSVPLMRGCGCCNDGEGLECVPTESNITMQIMRIKPHOGH 116

RESULT 2
 VEGA_PIG STANDARD; PRT; 190 AA.

AC P49151; 09GL52;
 DT 01-FEB-1996 (Rel. 33, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 NCBI_TaxID=9823;
 RX MEDLINE=95143284; PubMed=7841203;
 RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
 RT "Nucleotide sequence and expression of the porcine vascular endothelial growth factor";
 RL Biochim. Biophys. Acta 1260:235-238(1995).
 [2]
 RP SEQUENCE FROM N.A.
 RA Lee T., Caney J.M.;
 RT "PCR cloning of porcine cardiac vascular endothelial growth factor gene";
 RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC EMBL; X81380; CAA57143.1;
 DR EMBL; AF318502; AAC33064.1;
 DR HSSP; P15692; LVGH.
 DR InterPro: IPR000072; PDGF.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PDGF; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS02278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;

KW Heparin-binding; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100
 FT CONFLICT 102 102
 SQ SEQUENCE 190 AA; 22368 MW; 04DA08BD7913047F CRC64;
 Query Match 91.8%; Score 600.5; DB 1; Length 190;
 Best Local Similarity 94.8%; Pred. No. 7.2e-58;
 Matches 110; Conservative 0; Mismatches 5; Indels 1; Gaps 1;

QY 1 MNFLSWVHWSLALLYLHHAHKSQAAPMAEGGQNHHEVYKFMVDYQSRCHPTELTVD 60
 DB 1 MNFLSWVHWSLALLYLHHAHKSQAAPMAE-GDQKHEVYKFMVDYQSRCHPTELTVD 59
 QY 61 IFOEYDELEYIKRPSVPLMRGCGCCNDGEGLECVPTESNITMQIMRIKPHOGH 116
 DB 60 IFOEYDELEYIKRPSVPLMRGCGCCNDGEGLECVPTESNITMQIMRIKPHOGH 115

RESULT 3
 VEGA_CANFA STANDARD; PRT; 214 AA.

AC Q9MYV3; Q9XSF5; Q9XSF4; Q9XSF3;
 DT 01-MAR-2002 (Rel. 41, Created)
 DT 01-MAR-2002 (Rel. 41, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 NCBI_TaxID=9615;
 RX MEDLINE=20125516; PubMed=1061874;
 RA Scheidegger P., Weiglhofer W., Suarez S., Kaser-Holtz B., Stehner R., Ballmer-Hofer K., Jaussi R.;
 RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-bearing dogs";
 RL Biol. Chem. 380:1449-1454(1999).
 [2]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF188).
 RA Jüding L., Roque R.S.;
 RT Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -1- ALTERNATIVE PRODUCTS: At least 3 isoforms; VEGF188 (shown here), VEGF182 and VEGF164; are produced by alternative splicing.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).

CC EMBL: AJ133758; CAB82426.1; -

DR EMBL: AF133250; AAD29684.1; -

DR EMBL: AF133249; AAD29683.1; -

DR EMBL: AF133248; AAD29682.1; -

DR InterPro: IPR000072; PDGF.

DR Pfam: PF00341; PDGF_1.

DR ProDom: PD001629; PDGF_1.

DR SMART: SM00141; PDGF_1.

DR PROSITE: PS00249; PDGF_1; 1.

DR PROSITE: PS0278; PDGF_2; 1.

KW Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal; Hepatin-binding; Alternative splicing; Multigene family.

KW Hepatin-binding; Alternative splicing; Multigene family.

FT SIGNAL 1 26

FT CHAIN 27 214

FT DISULFID 51 93

FT DISULFID 82 127

FT DISULFID 86 129

FT DISULFID 76 76

FT DISULFID 85 85

FT CARBOHYD 100 100

FT VARSPLIC 140 140

FT VARSPLIC 141 164

FT VARSPLIC 159 164

FT CONFLICT 143 143

FT CONFLICT 161 161

SO SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;

Query Match 91.1%; Score 595.5; DB 1; Length 214;
Best Local Similarity 94.0%; Pred. No. 2.8e-57;
Matches 109; Conservative 0; Mismatches 6; Indels 1; Gaps 1;

QY 1 MNFLSWVHNSLALLYLHNAKMSQAAPMAEGGSGONHHEVVKFMDVYORSYCHPIETLYVD 60
1 MNFLSWVHNSLALLYLHNAKMSQAAPMAEGGSGONHHEVVKFMDVYORSYCHPIETLYVD 59

DB 61 IFQFYDEIEYIFKPCVPLMRGCGCCNDGSLCVPPEESNITQIMRIKPHQSOH 116
60 IFQFYDEIEYIFKPCVPLMRGCGCCNDGSLCVPPEESNITQIMRIKPHQSOH 115

RESULT 4

VEGA_BOVIN STANDARD; PRT; 190 AA.

ID VEGA_BOVIN STANDARD; PRT; 190 AA.

AC P15691;

DT 01-APR-1990 (Rel. 14, Created)

DT 01-APR-1990 (Rel. 14, Last sequence update)

DT 01-MAR-2002 (Rel. 41, Last annotation update)

DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).

GN VEGF OR VEGFA.

OS Bos taurus (Bovine).

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Bovinae; Bos.

OC NCBI_Taxid=9913;

OX 11

RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.

RX MEDLINE-90069608; PubMed-2479986;

RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.; "Vascular endothelial growth factor is a secreted angiogenic mitogen."; Science 246:1306-1309(1989).

RL Science 246:1306-1309(1989).

RN [2]

RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).

RX MEDLINE-90121225; PubMed-2610687;

RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J., Lau K., Crisp T., Fiddes J.C., Abraham J.A.; "Vascular endothelial growth factor: a new member of the platelet-derived growth factor gene family.";

RL Biochem. Biophys. Res. Commun. 165:1198-1206(1989).

RN [3]

RP SEQUENCE OF 27-31.

RX MEDLINE-89286596; PubMed-2735925;

RA Ferrara N., Henzel W.J.; "Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";

RL Biochem. Biophys. Res. Commun. 161:851-858(1989).

CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (by similarity).

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).

CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (by similarity).

CC -1- ALTERNATIVE PRODUCTS: 2 isoforms; alpha (shown here) and beta; are produced by alternative splicing.

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC EMBL: M32976; AAA30502.1; -

DR EMBL: M31836; AAA30804.1; -

DR EMBL: M33750; AAA30805.1; -

DR PIR: A33255; A33255.

DR PIR: A33787; A33787.

DR PIR: B40080; B40080.

DR HSP; P15692; IYGH.

DR InterPro: IPR000072; PDGF.

DR Pfam: PF00341; PDGF_1.

DR ProDom: PD001629; PDGF_1.

DR SMART: SM00141; PDGF_1.

DR PROSITE: PS00249; PDGF_1; 1.

DR PROSITE: PS0278; PDGF_2; 1.

KW Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal; Hepatin-binding; Alternative splicing; Multigene family.

KW Hepatin-binding; Alternative splicing; Multigene family.

FT SIGNAL 1 26

FT CHAIN 27 190

FT DISULFID 51 93

FT DISULFID 82 127

FT DISULFID 86 129

FT DISULFID 76 76

FT DISULFID 85 85

FT CARBOHYD 100 100

FT VARSPLIC 139 183

FT VARSPLIC 184 184

SO SEQUENCE 190 AA; 22310 MW; EDBF903E46E24789 CRC64;

Query Match 89.8%; Score 587.5; DB 1; Length 190;
Best Local Similarity 92.2%; Pred. No. 1.8e-50;
Matches 107; Conservative 2; Mismatches 6; Indels 1; Gaps 1;

QY 1 MNFLSWVHNSLALLYLHNAKMSQAAPMAEGGSGONHHEVVKFMDVYORSYCHPIETLYVD 60
1 MNFLSWVHNSLALLYLHNAKMSQAAPMAEGGSGONHHEVVKFMDVYORSYCHPIETLYVD 59

DB 61 IFQFYDEIEYIFKPCVPLMRGCGCCNDGSLCVPPEESNITQIMRIKPHQSOH 116
60 IFQFYDEIEYIFKPCVPLMRGCGCCNDGSLCVPPEESNITQIMRIKPHQSOH 115

RESULT 5

VEGA_SHEEP STANDARD; PRT: 146 AA.

ID VEGA_SHEEP STANDARD; PRT: 146 AA.

AC P50412;

DT 01-OCT-1996 (Rel. 34, Created)

DT 01-OCT-1996 (Rel. 34, Last sequence update)

DT 01-MAR-2002 (Rel. 41, Last annotation update)

DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).

GN VEGF OR VEGFA.

OS Ovis aries (Sheep).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Caprinae; Ovis.

OC NCBI_TaxID=9940;

OX NCBI_TaxID=9940;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Kidney;

RX MEDLINE=97117958; PubMed=8958842;

RA Redmer D.A., Dal Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.;

RT "Characterization and expression of vascular endothelial growth factor (VEGF) in the ovine corpus luteum."

RT J. Reprod. Fert. 108:157-165(1996).

RL J. Reprod. Fert. 108:157-165(1996).

CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparin sulfate and heparin (By similarity).

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

CC CC

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CC -----

DR EMBL: X89506; CA61677.1; -.

DR HSSP: P15692; IVP.

DR InterPro: IPR000072; PDGF.

DR Pfam: PF00341; PDGF_1.

DR ProDom: PD001629; PDGF_1.

DR SMART: SM00141; PDGF_1.

DR PROSITE: PS00249; PDGF_1; 1.

DR PROSITE: PS50278; PDGF_2; 1.

KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;

KW Heparin-binding; Multigene family.

KW SIGNAL

FT CHAIN 1 26 BY SIMILARITY.

FT SIGNAL 1 26 BY SIMILARITY.

FT CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR A.

FT DISULFID 51 93 BY SIMILARITY.

FT DISULFID 82 127 BY SIMILARITY.

FT DISULFID 86 129 BY SIMILARITY.

FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).

FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).

FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).

FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).

SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;

Query Match 89.4%; Score 584.5; DB 1; Length 146;

Best Local Similarity 91.4%; Pred. No. 2.9e-56;

Matches 106; Conservative 3; Mismatches 6; Indels 1; Gaps 1;

OY 1 MNFLSWVHMSLALLLYLHAKWSQAAPMAEGGQNHHEVYKEMDYQRSYCRPIETLVD 60

DB 1 MNFLSWVHMSLALLLYLHAKWSQAAPMAEGGQNHHEVYKEMDYQRSYCRPIETLVD 59

OY 61 IFQEPDELEYIKRPSVPLMRGCGCCNDGELCVPTSESNITMOIMRIKPHOGH 116

DB 60 IFQEPDELEYIKRPSVPLMRGCGCCNDGELCVPTSESNITMOIMRIKPHOGH 115

RESULT 6

ID VEGA_HORSE STANDARD; PRT: 190 AA.

AC O9GKR0;

DT 01-MAR-2002 (Rel. 41, Created)

DT 01-MAR-2002 (Rel. 41, Last sequence update)

DT 01-MAR-2002 (Rel. 41, Last annotation update)

DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).

GN VEGF OR VEGFA.

OS Equus caballus (Horse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.

OC NCBI_TaxID=9796;

OX NCBI_TaxID=9796;

RN [1]

RP SEQUENCE FROM N.A.

RA Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;

RT "Cloning of cDNA and high-level expression of equine vascular endothelial growth factor (VEGF)."

RT Submitted (JAN-2001) to the EMBL/Genbank/DBJ databases.

RL Submitted (JAN-2001) to the EMBL/Genbank/DBJ databases.

CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).

CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

CC CC

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CC -----

DR EMBL: AB053350; BAB20890.1; -.

DR InterPro: IPR000072; PDGF.

DR Pfam: PF00341; PDGF_1.

DR ProDom: PD001629; PDGF_1.

DR SMART: SM00141; PDGF_1.

DR PROSITE: PS00249; PDGF_1; 1.

DR PROSITE: PS50278; PDGF_2; 1.

KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;

KW Multigene family.

KW SIGNAL

FT CHAIN 1 26 POTENTIAL.

FT SIGNAL 1 26 POTENTIAL.

FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.

FT DISULFID 51 93 BY SIMILARITY.

FT DISULFID 82 127 BY SIMILARITY.

FT DISULFID 86 129 BY SIMILARITY.

FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).

FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).

FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).

FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).

SEQUENCE 190 AA; 22312 MW; 87E9E161439E5E87 CRC64;

Query Match 89.2%; Score 583.5; DB 1; Length 190;

Best Local Similarity 92.2%; Pred. No. 5e-56;

Matches 107; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

OY 1 MNFLSWVHMSLALLLYLHAKWSQAAPMAEGGQNHHEVYKEMDYQRSYCRPIETLVD 60

DB 1 MNFLSWVHMSLALLLYLHAKWSQAAPMAEGGQNHHEVYKEMDYQRSYCRPIETLVD 59

OY 61 IFQEPDELEYIKRPSVPLMRGCGCCNDGELCVPTSESNITMOIMRIKPHOGH 116

DB 60 IFQEPDELEYIKRPSVPLMRGCGCCNDGELCVPTSESNITMOIMRIKPHOGH 115

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RESULT 7
VEGA_MOUSE STANDARD; PRT; 214 AA.
ID .VEGA_MOUSE 000731;
AC 01-APR-1993 (Rel. 25, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3).
RX MEDLINE=92274860; PubMed=1592003;
RA Breier G., Albrecht U., Steier S., Risau W.;
RT "Expression of vascular endothelial growth factor during embryonic
angiogenesis and endothelial cell differentiation."
RL Development 114:521-532(1992).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-1).
RX MEDLINE=92355593; PubMed=1644816;
RA Claffey K.P., Wilkison W.O., Splegelman B.M.;
RT "Vascular endothelial growth factor. Regulation by cell
differentiation and activated second messenger pathways."
RL J. Biol. Chem. 267:16317-16322(1992).
RN [3]
RP SEQUENCE OF 1-3 FROM N.A.
RX MEDLINE=96216498; PubMed=8632007;
RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adams A.P., D'Amore P.A.;
RT "The mouse gene for vascular endothelial growth factor. Genomic
structure, definition of the transcriptional unit, and
characterization of transcriptional and post-transcriptional
regulatory sequences."
RL J. Biol. Chem. 271:3877-3883(1996).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
endothelial cell growth. It induces endothelial cell
proliferation, promotes cell migration, inhibits apoptosis, and
induces permeabilization of blood vessels. It binds to the
VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
heparin (by similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
with PlGF (by similarity).
CC -1- SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
remains cell-surface associated unless released by heparin.
CC -1- ALTERNATIVE PRODUCTS: 3 isoforms: VEGF-3/VEGFR188 (shown here),
VEGF-1/VEGFR164 and VEGF-2/VEGFR120; are produced by alternative
splicing.
CC -1- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the
choroid plexus, paraventricular neuroepithelium, placenta and
kidney glomeruli. Also found in bronchial epithelium, adrenal
gland and in seminiferous tubules of testis. High expression of
VEGF continues in kidney glomeruli and choroid plexus in adults.
CC -1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell
retention signal.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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or send an email to license@isb-sib.ch).
CC
CC EMBL: S37052; AAB22252.1; -
CC EMBL: S38083; AAB22253.1; -
CC EMBL: S38100; AAB22254.1; -
CC EMBL: M95200; AAA40547.1; -
CC EMBL: U41383; -, NOT_ANNOTATED_CDS.

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DR PIR: A43351; A43351.
DR HSSP; P15692; 2VPF.
DR MGD; MGI:103178; Vegf.
DR InterPro; IPR000072; PDGF.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PDGF; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
KW SIGNAL
FT CHAIN 1 26
FT DISULFID 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT CARBOHYD 140 140
FT VARSPLIC 141 164
FT VARSPLIC 141 208
FT CONFLICT 117 118
FT CONFLICT 117 118
SQ SEQUENCE 214 AA; 25283 MW; B5540B51E4BB6E17 CRC64;
Query Match 87.1%; Score 569.5; DB 1; Length 214;
Best Local Similarity 88.8%; Pred. No. 1.8e-54;
Matches 103; Conservative 2; Mismatches 10; Indels 1; Gaps 1;
OY 1 MNFLLSWVHSLALLLYTHHAKWSQAPMAEGCGGNHHEVYKFMNDYRSTRCHPLETYLD 60
DB 1 MNFLLSWVHMTALLLYLTHHAKWSQAPTE-GEOKSHEVTKFMDYVYRSCRPLETLYLD 59
OY 61 IFOEYPRDEIEYIFKPSCVPLMKRCGCCNDEGLCEVPTSESNITQIMIKPHOGH 116
DB 60 IFOETPRDEIEYIFKPSCVPLMKRCGCCNDEALCEVPTSESNITQIMIKPHOGH 115
RESULT 8
VEGA_RAT STANDARD; PRT; 214 AA.
ID .VEGA_RAT 090XG7; 090XG6; 090XK7;
AC P1612; 090XG7; 090XG6; 090XK7;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190.
RX MEDLINE=90207249; PubMed=2320579;
RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
RA Palisi T.M., Hope D.A., Thomas K.A.;
RT "Amino acid and cdna sequences of a vascular endothelial cell mitogen
that is homologous to platelet-derived growth factor."
RT Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
VEGF-A120).
RX Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
RT "Developmental expression of vascular endothelial growth factor-A
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
mesenteric muscle."
RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE OF 27-40.
RC TISSUE-Glial tumor;
RX MEDLINE=95221439; PubMed=7706320;

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RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular
 RT endothelial growth factor.placenta growth factor heterodimer.";
 RL J. Biol. Chem. 270:7717-7723(1995).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (by similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
 CC VEGF-A164 is more basic, has heparin-binding properties and
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF-A188 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin (by similarity).
 CC -1- ALTERNATIVE PRODUCTS: At least 4 isoforms; VEGF-A188 (shown here),
 CC VEGF-A164, VEGF-A144 and VEGF-A120; are produced by alternative
 CC splicing.
 CC -1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in
 CC particularly in supraoptic and paraventricular nuclei and the
 CC choroid plexus. Also found abundantly in the corpus luteum of
 CC the ovary and in kidney glomeruli.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC
 CC EMBL: M32167; AAA41211.1; -;
 CC EMBL: AF215725; AAF19211.1; -;
 CC EMBL: AF215726; AAF19212.1; -;
 CC EMBL: AF222779; AAF25958.1; -;
 CC DR EMBL: A35987; A35987.
 CC DR HSSP: P15692; 1VP.
 CC DR InterPro: IPR000072; PDGF.
 CC DR Pfam: PF00341; PDGF; 1.
 CC DR ProDom: PD001629; PDGF; 1.
 CC DR SMART: SM00141; PDGF; 1.
 CC DR PROSITE: PS00249; PDGF_1; 1.
 CC DR PROSITE: PS00278; PDGF_2; 1.
 CC KM Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Heparin-binding; Alternative splicing; Multigene family.
 CC FT SIGNAL 1 26
 CC FT CHAIN 27 214
 CC FT DISULFID 51 93
 CC FT DISULFID 82 127
 CC FT DISULFID 86 129
 CC FT DISULFID 76 76
 CC FT DISULFID 85 85
 CC FT CARBOHYD 100 100
 CC FT VARSPLC 140 140
 CC FT VARSPLC 141 140
 CC FT VARSPLC 141 140
 CC FT VARSPLC 141 208
 CC FT VARSPLC 165 208
 CC FT CONFLICT 101 101
 CC FT CONFLICT 101 101
 CC FT SEQUENCE 214 AA; 25239 MW; 60FEB876F5304946 CRC64;

Query Match 86.9%; Score 568.5; DB 1; Length 214;

Best Local Similarity 88.8%; Pred. No. 2.4e-54;

Matches 103; Conservative 2; Mismatches 10; Indels 1; Gaps 1;

OY 1 MNFLSWHVTALLLYLHAKNSQAPPAEAGGONHHEVVKFMDVYQRSYCHPIETLVD 60

|||||

DB 1 MNFLSWHVTALLLYLHAKNSQAPPAE-GEORAHHEVVKFMDVYQRSYCHPIETLVD 59
 OY 61 IFOEYDEIEYIFKPCVPLMRGCGCCNDEGECVPTESNTIMQIRIKPHOGH 116
 DB 60 IFOEYDEIEYIFKPCVPLMRGCGCCNDEGECVPTESNTIMQIRIKPHOGH 115

RESULT 9
 VEGA_MESAU STANDARD; PRT; 190 AA.
 ID VEGA_MESAU
 AC 099PS1;
 DT 01-MAR-2002 (Rel. 41, Created)
 DT 01-MAR-2002 (Rel. 41, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VFP).
 GN VEGF OR VEGFA.
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxID=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Decidua, and Embryo;
 RA Yi X.J., Chow P.H.;
 RL Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (by similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (by
 CC similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC
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 CC
 CC EMBL: AF063013; AAK00049.1; -;
 CC InterPro: IPR000072; PDGF.
 CC DR Pfam: PF00341; PDGF; 1.
 CC DR ProDom: PD001629; PDGF; 1.
 CC DR SMART: SM00141; PDGF; 1.
 CC DR PROSITE: PS00249; PDGF_1; 1.
 CC DR PROSITE: PS00278; PDGF_2; 1.
 CC KM Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Heparin-binding; Multigene family.
 CC FT SIGNAL 1 26
 CC FT CHAIN 27 190
 CC FT DISULFID 51 93
 CC FT DISULFID 82 127
 CC FT DISULFID 86 129
 CC FT DISULFID 76 76
 CC FT DISULFID 85 85
 CC FT CARBOHYD 100 100
 CC FT SEQUENCE 190 AA; 22276 MW; F0C5A8EA79A465F CRC64;

Query Match 86.0%; Score 562.5; DB 1; Length 190;

Best Local Similarity 87.1%; Pred. No. 9.2e-54;

Matches 101; Conservative 5; Mismatches 9; Indels 1; Gaps 1;

OY 1 MNFLSWHVTALLLYLHAKNSQAPPAEAGGONHHEVVKFMDVYQRSYCHPIETLVD 60


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DB 1 MFLLSWMTLALLLYHAKSOAPPTT-GEOKAGVEMADYRRSYCHPITLVD 59
OY 61 IFQEPDEIEYIFKPCVPLMRGCGCNDGECVPTESNTMOTMRKPHOGH 116
DB 60 IFQEPDEIEYIFKPCVPLMRGCGCNDGECVPTESNTMOTMRKPHOGH 115

RESULT 10
VEGA_CHICK STANDARD: PRT: 216 AA.
AC P52582: 091420:
DT 01-OCT-1996 (Rel. 34, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Gallus gallus (Chicken), and
OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauromorpha; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031, 93934;
RN 11
RN SEQUENCE FROM N.A.
RC SPECIES=Chicken; TISSUE=Heart;
RA Takahashi T.;
RT Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
RN 12
RN SEQUENCE FROM N.A.
RC SPECIES=C. japonica; TISSUE=Embryo;
RX MEDLINE=96005007; PubMed=7556923;
RA Flame I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.;
RT "Overexpression of vascular endothelial growth factor in the avian
RT embryo induces hypervascularization and increased vascular
RT permeability without alterations of embryonic pattern formation.";
RL Dev. Biol. 171:399-414(1995).
RN 13
RN SEQUENCE OF 60-187 FROM N.A.
RC SPECIES=C. japonica;
RX MEDLINE=95301109; PubMed=7781909;
RA Flame I., Breier G., Risau W.;
RT "Vascular endothelial growth factor (VEGF) and VEGF receptor 2
RT (flk-1) are expressed during vasculogenesis and vascular
RT differentiation in the quail embryo.";
RL Dev. Biol. 169:699-712(1995).
RN 14
RN FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
RN endothelial cell growth. It induces endothelial cell
RN proliferation, promotes cell migration, inhibits apoptosis, and
RN induces permeabilization of blood vessels. It binds to the
RN VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
RN heparin (By similarity).
RN SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
RN with PlGF (By similarity).
RN ALTERNATIVE PRODUCTS: At least 3 isoforms; VEGF190 (shown here),
RN VEGF166 and VEGF146; are produced by alternative splicing.
RN TISSUE SPECIFICITY: Abundantly and equally expressed in heart and
RN liver. In kidney glomeruli, brain and yolk sac, VEGF166 is 5- to
RN 10-times more abundant than VEGF190.
RN DEVELOPMENTAL STAGE: VEGF166 is expressed early at day 1 and is
RN upregulated during gastrulation. Expression of VEGF190 is detectable
RN only from day 2.
RN DOMAIN: VEGF190 contains a basic insert which acts as a cell
RN retention signal.
RN SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
RN
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CC
CC EMBL: AB011078; BAA24925.1;
DR EMBL: S79680; AB35371.1;
DR HSSP: P15692; 1VGH.
DR InterPro: IPR000072; PDGF.
DR Pfam: PF00341; PDGF; 1.
DR ProDom: PD001629; PDGF; 1.
DR SMART: SM00141; PDGF; 1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS00278; PDGF_2; 1.
KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 216
FT DISULFID 52 94
FT DISULFID 83 128
FT DISULFID 87 130
FT DISULFID 77 77
FT CARBOHYD 86 86
FT VARSPLIC 142 142
FT VARSPLIC 143 166
FT VARSPLIC 166 166
FT VARSPLIC 167 210
SQ SEQUENCE 216 AA; 25203 MW; 82E69C2FE6C6DA7 CRC64;

Query Match 70.2%; Score 459; DB 1; Length 216;
Matches 79; Conservative 16; Mismatches 21; Indels 0; Gaps 0;
Best Local Similarity 68.1%; Pred. No. 1.6e-42;

OY 1 MFLLSWMTLALLLYHAKSOAPPTT-GEOKAGVEMADYRRSYCHPITLVD 60
DB 1 MFLLSWMTLALLLYHAKSOAPPTT-GEOKAGVEMADYRRSYCHPITLVD 60
OY 61 IFQEPDEIEYIFKPCVPLMRGCGCNDGECVPTESNTMOTMRKPHOGH 116
DB 61 IFQEPDEIEYIFKPCVPLMRGCGCNDGECVPTESNTMOTMRKPHOGH 116

RESULT 11
VEGA_CAVPO STANDARD: PRT: 164 AA.
AC P26617;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability
DE factor) (VPF).
GN VEGF OR VEGFA.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Cavidae; Cavia.
OX NCBI_TaxID=10141;
RN 11
RN SEQUENCE FROM N.A.
RN TISSUE= bile duct;
RA Berse B.;
RT Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
RN FUNCTION: Growth factor active in angiogenesis and endothelial
RN cell growth. Induces endothelial proliferation and vascular
RN permeability (By similarity).
RN SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
RN with PlGF (By similarity).
RN SUBCELLULAR LOCATION: Secreted but remains associated to cells or
RN to the extracellular matrix unless released by heparin (By
RN similarity).
RN SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
RN
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CC -----
 DR EMBL; M84230; AAA37057.1; -
 DR HSSP; P15692; 1VGH.
 DR InterPro; IPR000072; PDGF.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PDGF; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 56 101 BY SIMILARITY.
 FT DISULFID 60 103 BY SIMILARITY.
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 74 74 N-LINKED (GLCNAC. . .) (POTENTIAL).
 SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 64.6%; Score 422.5; DB 1; Length 164;
 Best Local Similarity 87.8%; Pred. No. 1; le-38;
 Matches 79; Conservative 1; Mismatches 9; Indels 1; Gaps 1;

QY 27 APMAGCGGNHHEVYKFMVYQSYCHPIETLVDFQEPDELEYIFKPSCVPLMRCGC 86
 DB 1 APMAG-GECKPREEVYKFMVYQSYCHPIETLVDFQEPDELEYIFKPSCVPLMRCGC 59
 QY 87 CNDEGLECVPTESNTTMOIMRIKPHOGH 116
 DB 60 CNDEGLECVPTESNTTMOIMRIKPHOGH 89

RESULT 12

PLGF_MOUSE STANDARD; PRT; 158 AA.
 AC P49764;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Placenta growth factor precursor (PLGF).
 GN PGF OR PLGF.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID-10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-Heart;
 RX MEDLINE-97059399; PubMed-8903720;
 RA Dipalma T., Tucci M., Russo G., Maglione D., Lago C.T., Romano A.,
 RA Saccone S., della Valle G., de Gregorio L., Dragani T.A.,
 RA Vignietto G., Persico M.G.;
 RT "The placenta growth factor gene of the mouse."
 RL Mamm. Genome 7:6-12(1996).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN-NIH SWISS;
 RX MEDLINE-98065381; PubMed-9401819;
 RA Achen M.G., Gad J.M., Stacker S.A., Wilks A.F.;
 RT "Placenta growth factor and vascular endothelial growth factor are
 RT co-expressed during early embryonic development."
 RL Growth Factors 15:69-80(1997).
 CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
 CC cell growth, stimulating their proliferation and migration. It
 CC binds to receptor VEGFR-1/Flt1 (By similarity).
 CC -1- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
 CC heterodimer with VEGF/VEGF-A (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC EMBL; X80171; CAA56453.1; -
 DR EMBL; X96793; CA65587.1; -
 DR HSSP; P15692; 2VPP.
 DR MGD; MGI:105095; Pgf.
 DR InterPro; IPR000072; PDGF.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PDGF; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 KW Mitogen; Growth factor; Glycoprotein; Signal.
 FT SIGNAL 1 18 BY SIMILARITY.
 FT CHAIN 19 158 PLACENTA GROWTH FACTOR.
 FT DISULFID 48 90 BY SIMILARITY.
 FT DISULFID 79 125 BY SIMILARITY.
 FT DISULFID 83 127 BY SIMILARITY.
 FT DISULFID 73 73 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 82 82 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 29 29 N-LINKED (GLCNAC. . .) (POTENTIAL).
 FT CARBOHYD 30 30 N-LINKED (GLCNAC. . .) (POTENTIAL).
 FT CARBOHYD 30 30 N-LINKED (GLCNAC. . .) (POTENTIAL).
 SQ SEQUENCE 158 AA; 17876 MW; F1612BBEA0790438 CRC64;

Query Match 42.0%; Score 274.5; DB 1; Length 158;
 Best Local Similarity 54.8%; Pred. No. 1e-22; 28; Indels 1; Gaps 1;
 Matches 51; Conservative 13; Mismatches 28;

QY 24 SQAPMAEGCGGNHHEVYKFMVYQSYCHPIETLVDFQEPDELEYIFKPSCVPLMRC 83
 DB 21 SQGA-LSAGNNSYEVYKFMVYQSYCHPIETLVDFQEPDELEYIFKPSCVPLMRC 79
 QY 84 GCGCNDGLECVPTESNTTMOIMRIKPHOGH 116
 DB 80 SGCCGDEGLHCVPYIKTANITMOIKIPNRPD 112

RESULT 13

PLGF_HUMAN STANDARD; PRT; 221 AA.
 AC P49763; Q9BV78; Q9Y6S8; Q07101;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-MAR-2002 (Rel. 41, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Placenta growth factor precursor (PLGF).
 GN PGF OR PLGF.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OX NCBI_TaxID-9606;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM PLGF-1).
 RC TISSUE-Placenta;
 RX MEDLINE-92021031; PubMed-1924389;
 RA Maglione D., Guerliero V., Vignietto G., Dell-Isoyl P., Persico M.G.;
 RT "Isolation of a human placenta cDNA coding for a protein related to
 RT the vascular permeability factor."
 RL Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271(1991).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORM PLGF-2).
 RC TISSUE-Placenta;
 RX MEDLINE-94198032; PubMed-8148155;
 RA Hauser S.D., Welch H.A.;

RT "A heparin-binding form of placenta growth factor (PLGF-2) is
RT expressed in human umbilical vein endothelial cells and in
RT placenta."
RL Growth Factors 9:259-268(1993).
RN [3]
RP PARTIAL SEQUENCE FROM N.A. (ISOFORM PLGF-2).
RX MEDLINE-93205407; PubMed-7681160;
RA Maglione D., Guerriero V., Vigiiletto G., Ferraro M.G., Aprelikova O.,
RA Alltano K., del Vecchio S., Lei K.-J., Chou J.Y., Persico M.G.;
RT "Two alternative mRNAs coding for the angiogenic factor, placenta
RT growth factor (PLGF), are transcribed from a single gene of
RL chromosome 14."
RL Oncogene 8:925-931(1993).
RN [4]
RP SEQUENCE FROM N.A. (ISOFORM PLGF-3).
RC TISSUE-Placenta;
RX MEDLINE-97350807; PubMed-9207183;
RA Cao Y., Ji W.-R., Qi P., Rosin A., Cao Y.;
RA "Placenta growth factor: Identification and characterization of a
RT novel isoform generated by RNA alternative splicing."
RL Biochem. Biophys. Res. Commun. 235:493-498(1997).
RN [5]
RP SEQUENCE FROM N.A. (ISOFORM PLGF-1).
RA Kowen L., Madan A., Qin S., Abbasi N., Doris M., Dickhoff R., James R.,
RA Loreti C., Lasky S., Madan A., Prescott S., Ratcliffe A., Shaffer T.,
RA Hood L.;
RT "Sequencing of human chromosome 14."
RL Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.
RN [6]
RP SEQUENCE FROM N.A. (ISOFORM PLGF-2).
RC TISSUE-Muscle, and Placenta;
RA Strausberg R.;
RX Submitted (MAY-2001) to the EMBL/GenBank/DBJ databases.
RN [7]
RP CHARACTERIZATION, AND SEQUENCE OF 19-24.
RX MEDLINE-95014370; PubMed-7929268;
RA Pak J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.;
RT "Placenta growth factor. Potentiation of vascular endothelial growth
RT factor bioactivity, in vitro and in vivo, and high affinity binding
RT to Flt-1 but not to Flk-1/KDR."
RL J. Biol. Chem. 269:25646-25654(1994).
RN [8]
RP X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS) (ISOFORM PLGF-1).
RX MEDLINE-21192270; PubMed-11069911;
RA Iyer S., Leonidas D.G., Swaminathan G.J., Maglione D., Battisti M.,
RA Tucci M., Persico M.G., Acharya K.R.;
RT "The crystal structure of human placenta growth factor-1 (PLGF-1), an
RL angiogenic protein, at 2.0 Å resolution."
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth, stimulating their proliferation and migration. It
CC binds to receptor VEGFR-1/Flt1. PLGF-2 binds neuropilin-1 and 2 in
CC a heparin-dependent manner.
CC -1- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
CC heterodimer with VEGF/VEGF-A. PLGF-3 is found both as homodimer
CC and as monomer.
CC -1- SUBCELLULAR LOCATION: The three forms are secreted but PLGF-2
CC appears to remain cell attached unless released by heparin.
CC -1- ALTERNATIVE PRODUCTS: 3 isoforms; PLGF-1/PLGF-131, PLGF-2/PLGF-152
CC and PLGF-3 (shown here); are produced by alternative splicing.
CC -1- TISSUE SPECIFICITY: While the three forms are present in most
CC placental tissues, the PLGF-2 is specific to early (8 week)
CC placenta and only PLGF-1 is found in the colon and mammary
CC carcinomas.
CC -1- DOMAIN: PLGF-2 contains a basic insert which acts as a cell
CC retention signal.
CC -1- PTM: N-GLYCOSYLATED.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
DR EMBL; X54936; CAA38698.1; -
DR EMBL; S72960; AAB30462.2; -
DR EMBL; S57152; AAB25832.2; ALT_SEQ.
DR EMBL; AC006530; AAD3019.1; -
DR EMBL; BC001422; AAH01422.1; -
DR EMBL; BC007789; AAH07789.1; -
DR EMBL; BC007255; AAH07255.1; -
DR EMBL; A18411; CAA01393.1; -
DR PDB; 1FZY; 09-MAY-01.
DR MIM; 601121; -
DR InterPro; IPR000072; PDGF.
DR Pfam; PF00341; PDGF.1.
DR ProDom; PD001629; PDGF.1.
DR SMART; SM00141; PDGF.1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS02078; PDGF_2; 1.
DR Mitogen; growth factor; Glycoprotein; Signal; Heparin-binding;
KW Alternative splicing; 3d-structure.
FT SIGNAL 1 18
FT CHAIN 19 221 PLACENTA GROWTH FACTOR.
FT FT DOMAIN 193 213 HEPARIN-BINDING (PROBABLE).
FT DISULFID 52 94
FT DISULFID 83 128
FT DISULFID 87 130
FT DISULFID 77 77 INTERCHAIN.
FT DISULFID 86 86 INTERCHAIN.
FT CARBOHYD 33 33 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 101 101 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT VASPLIC 132 203 MISSING (IN ISOFORM PLGF-1 AND ISOFORM
FT PLGF-2).
FT VASPLIC 213 213 R->RRRPKGRGRRRRKQPTDCHL (IN ISOFORM
FT PLGF-2).
FT CONFLICT 91 91 N->D (IN REF. 2).
FT SEQUENCE 221 AA; 24788 MM; D364C6A73C1C6987 CRC64;
OY Query Match 40.7%; Score 266; DB 1; Length 221;
OY Best Local Similarity 50.6%; Fred. No. 1.2e-21;
OY Matches 45; Conservative 18; Mismatches 22; Indels 4; Gaps 1;
DB 22 KMSQAPMAEGGGGHNHNEVKFMDYVORSQPIETLVDIFQEYDDELEYIKPSCPYLM 81
DB 26 QMALA-----GNGSSEVEYVRFQEWGNGRSGCALRLVDVVSSEYSEVDHMSPCVSL 81
OY 82 RCGGCCNDGELCEVPTESNTITQIMRIK 110
DB 82 RCTGCCGDENLHCVEPTANTVMTQILKIR 110
RESULT 14
PLGF_BOVIN STANDARD; PRT; 149 AA.
AC O9XS47;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Placenta growth factor precursor (PLGF).
GN PGF OR PLGF.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Heart;
RA Liu X., Yonekura H., Yamagishi S., Yamamoto Y., Yamamoto H.;
RA "Structure and expression of bovine VEGF family."
RA Submitted (MAY-1997) to the EMBL/Genbank/DBJ databases.

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OM protein - protein search, using sw model

Run on: May 17, 2002, 11:22:33 ; Search time 121.84 Seconds
(Without alignments)
164.703 Million cell updates/sec

Title: US-09-575-199-2_COPY_1_116
Sequence: 1 MNFLSWVHMSIALLLYLHR.....TEESNITMOIRKPHOGQH 116

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues.
Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPREMBL_19:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriophage:*
17: sp_archaeop:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	654	100.0	191	4	096182 homo sapien
2	654	100.0	191	4	096KJ0 homo sapien
3	654	100.0	191	6	095NE5 macaca fasc
4	605	92.5	126	6	09BDP7 macaca mulia
5	591.5	90.4	189	6	095104 felis silve
6	584.5	89.4	190	6	077643 ovis aries
7	576.5	86.9	190	11	090X39
8	568.5	86.9	190	11	0912E1
9	531	81.2	169	4	096NWS
10	510.5	78.1	141	11	070123
11	449	68.7	148	13	042571
12	449	68.7	194	13	042572
13	426.5	65.2	118	6	09M2B1
14	422	64.5	124	6	09GK00
15	379	58.0	142	11	09ERT6
16	368.5	56.3	110	11	088911

17	339	51.8	68	6	097500	097500 oryctolagus
18	322.5	49.3	144	13	073822	073822 brachydanio
19	322.5	49.3	188	13	073682	073682 brachydanio
20	311	47.6	75	6	018843	018843 oryctolagus
21	292	44.6	78	6	09N1S2	09N1S2 capreolus c
22	292	44.6	123	6	09N1S1	09N1S1 capreolus c
23	234	38.8	146	13	090X23	090X23 bothrops ja
24	243	37.2	146	13	090X24	090X24 bothrops in
25	200	30.6	132	12	09YMF3	09YMF3 orf virus.
26	155.5	23.8	326	11	091ZE4	091ZE4 rattus norv
27	155	23.7	418	13	057352	057352 coturnix co
28	149.5	22.9	326	11	091ZE6	091ZE6 meriones un
29	149.5	22.9	415	11	091ZE3	091ZE3 rattus norv
30	148	22.6	420	6	09X550	09X550 bos taurus
31	131	20.0	23	11	091V21	091V21 rattus norv
32	123	18.8	22	4	09UN58	09UN58 homo sapien
33	121	18.5	301	5	09VWP6	09VWP6 drosophila
34	121	18.5	314	5	09BLX1	09BLX1 drosophila
35	121	18.5	325	5	0960Z8	0960Z8 drosophila
36	120	18.3	23	11	091ZE2	091ZE2 rattus norv
37	94	14.4	185	4	015354	015354 homo sapien
38	94	14.4	210	6	029613	029613 felis silve
39	94	14.4	226	4	09UE23	09UE23 homo sapien
40	93	14.2	345	13	091946	091946 galus gall
41	90	13.8	149	11	09VW07	09VW07 mesocricetu
42	90	13.8	183	11	063740	063740 rattus rat
43	89	13.6	68	4	09UE57	09UE57 homo sapien
44	89	13.6	118	11	09C096	09C096 mus musculu
45	89	13.6	196	11	099L56	099L56 mus musculu

ALIGNMENTS

RESULT 1
ID 096182 PRELIMINARY: PRT; 191 AA.
AC 096182;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR.
GN VEGF.
OS Homo sapiens (Human).
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP Liu J., Peng X., Yuan J., Qiang B.;
RA "Cloning of vascular endothelial growth factor (VEGF) cDNA."
RT Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AY047581; AAK95847.1; -
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 100.0%; Score 654; DB 4; Length 191;
Best Local Similarity 100.0%; Pred. No. 3.7e-67;
Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNFLSWVHMSIALLLYLHNAKNSOAPNAEGGQNHNEVVKFMDVYORSYCPHETLVD 60
DB 1 MNFLSWVHMSIALLLYLHNAKNSOAPNAEGGQNHNEVVKFMDVYORSYCPHETLVD 60
QY 61 IQEYRDELEYIFKPCVPLMRGCGCNDGELCVPTSEENITMOIRKPHOGQH 116
DB 61 IQEYRDELEYIFKPCVPLMRGCGCNDGELCVPTSEENITMOIRKPHOGQH 116
RESULT 2
ID 096KJ0 PRELIMINARY: PRT; 191 AA.
AC 096KJ0;

DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, last sequence update)
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR 165B.
 OS Homo sapiens (Human).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
 NX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=KIDNEY;
 RA Sugiono M., Winkler M., Gillatt P., Harper S.J., Bates D.O.;
 RT "A new isoform of vascular endothelial growth factor mRNA is down-
 regulated in renal tumors.";
 RL (in) Unknown A. (eds.);
 RL PROCEEDINGS OF THE WORLD CONGRESS ON MICROCIRCULATION 7, pp.3-0,
 RL Unknown Publisher (2001).
 DR EMBL; AF430806; AAL27435.1; -
 SO SEQUENCE 191 AA; 22528 MW; D25243E540AC79BD CRC64;

Query Match 100.0%; Score 654; DB 4; Length 191;
 Best Local Similarity 100.0%; Pred. No. 3.7e-67;
 Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVD 60
 DB 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVD 60
 OY 61 IFQEPDEIEYIFKPSVPLMRCGGCCNDEGLCVPTESNITMQLIRKPHOGH 116
 DB 61 IFQEPDEIEYIFKPSVPLMRCGGCCNDEGLCVPTESNITMQLIRKPHOGH 116

RESULT 3
 Q95NE5 PRELIMINARY; PRT; 191 AA.
 AC Q95NE5;
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, last sequence update)
 DE 01-DEC-2001 (TREMBLrel. 19, last annotation update)
 DE SIMVEGF165.
 GN SIMVEGF165.
 OS Macaca fascicularis (Crab eating macaque) (Cynomolus monkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
 OC Cercopitheciidae; Macaca.
 NX NCBI_TaxID=9541;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC MEDLINE=96245208; PubMed=8641836;
 RA Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
 RA Adams A.P., D'Amore P.A.;
 RT "Cloning and mRNA expression of vascular endothelial growth factor in
 ischemic retinas of Macaca fascicularis.";
 RT Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
 RL EMBL; S82167; AAB47118.1; -
 SO SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 100.0%; Score 654; DB 6; Length 191;
 Best Local Similarity 100.0%; Pred. No. 3.7e-67;
 Matches 116; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVD 60
 DB 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVD 60
 OY 61 IFQEPDEIEYIFKPSVPLMRCGGCCNDEGLCVPTESNITMQLIRKPHOGH 116
 DB 61 IFQEPDEIEYIFKPSVPLMRCGGCCNDEGLCVPTESNITMQLIRKPHOGH 116

RESULT 4
 Q9BDP7 PRELIMINARY; PRT; 126 AA.
 AC Q9BDP7;
 DT 01-JUN-2001 (TREMBLrel. 17, Created)
 DT 01-JUN-2001 (TREMBLrel. 17, last sequence update)
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
 OS Macaca mulatta (Rhesus macaque).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
 OC Cercopitheciidae; Macaca.
 NX NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Hazard T.M., Nayak N.R., Jia Y., Stouffer R.L.;
 RT "Rhesus macaque VEGF mRNA sequence.";
 RL Submitted (JUN-2001) to the EMBL/Genbank/DBJ databases.
 DR EMBL; AF339737; AAK26379.1; -
 DR HSPF; P15692; 2VPF.
 DR InterPro; IPR000072; PDGF.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PDGF_1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 FT NON_TER 1 126
 FT NON_TER 1 126
 SO SEQUENCE 126 AA; 14599 MW; 1175F2386A83BCF CRC64;

Query Match 92.5%; Score 605; DB 6; Length 126;
 Best Local Similarity 99.1%; Pred. No. 9.7e-62;
 Matches 108; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 8 VHMSTALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVDIPOEYD 67
 DB 1 VHMSTALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVDIPOEYD 60
 QY 68 ELEYIFKPSVPLMRCGGCCNDEGLCVPTESNITMQLIRKPHOGH 116
 DB 61 ELEYIFKPSVPLMRCGGCCNDEGLCVPTESNITMQLIRKPHOGH 109

RESULT 5
 Q95I04 PRELIMINARY; PRT; 189 AA.
 AC Q95I04;
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, last sequence update)
 DE 01-DEC-2001 (TREMBLrel. 19, last annotation update)
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR.
 OS Felis silvestris catus (Cat).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
 NX NCBI_TaxID=9685;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Koga I., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
 RT "Nucleotide sequence and expression of the feline vascular endothelial
 growth factor.";
 RT Submitted (SEP-2001) to the EMBL/Genbank/DBJ databases.
 RL EMBL; AB071947; BAB68520.1; -
 SO SEQUENCE 189 AA; 22193 MW; C1E4646759AB3FD6 CRC64;

Query Match 90.4%; Score 591.5; DB 6; Length 189;
 Best Local Similarity 93.1%; Pred. No. 5.4e-60;
 Matches 108; Conservative 1; Mismatches 6; Indels 1; Gaps 1;

QY 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVD 60
 DB 1 MNFLSWHMSLALLYLHNAKWSQAAPMAEGGONHHEVYKFMVYORSYCHPIETLVD 59

Oy	61	IFOEYPEDEIEITYFPCSVPLMRGCGCCNDEGLECYPTESNTIMOIMRIKHOGCH	116
Dd	60	IFOEYPEDEIEITYFPCSVPLMRGCGCCNDEGLECYPTESNTIMOIMRIKHOGCH	115
RESULT	6		
ID	077643	PRELIMINARY;	PRT; 190 AA.
AC	077643		
DT	01-NOV-1998	(TREMBLrel. 08, Created)	
DT	01-NOV-1998	(TREMBLrel. 08, Last sequence update)	
DT	01-JUN-2001	(TREMBLrel. 17, last annotation update)	
DE	VASCULAR ENDOTHELIAL GROWTH FACTOR.		
OS	VEGF.		
OC	Ovis aries (Sheep).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;		
OC	Bovidae; Caprinae; Ovis.		
OX	NCBI_TaxID=9940;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	STRAIN-COLOMBA-RAMBOULLET;		
RA	Cheung C.Y., Brace R.A.;		
RT	*Ovine vascular endothelial growth factor: Nucleotide sequence and expression in fetal tissues.*		
RL	Growth Factors 0:0-0(1998).		
DR	EMBL; AF071015; AAC3608.1; -.		
DR	HSSP; P15692; IVGH.		
DR	InterPro; IPR000072; PDGF.		
DR	Pfam; PF00341; PDGF_1.		
DR	Prodom; PD001629; PDGF_1.		
DR	SMART; SM00141; PDGF_1.		
DR	PROSITE; PS00249; PDGF_1; 1.		
DR	PROSITE; PS50278; PDGF_2; 1.		
SQ	SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C3E739 CRC64;		
Query Match	89.4%; Score 584.5; DB 6; Length 190;		
Best Local Similarity	91.4%; Pred. No. 3.5e-59;		
Matches 106; Conservative	3; Mismatches 6; Indels 1; Gaps 1;		
Oy	1	MNFLLSWVMSTALLLTLYLHAAKWSQAAPMAEGGCONHHVEVFMDYGRSYCHPIETLVLD	60
Dd	1	MNFLLSWVMSTALLLTLYLHAAKWSQAAPRAE-GGGKRPHVMKFMDYQGSFCRPIETLVLD	59
Oy	61	IFOEYPEDEIEITYFPCSVPLMRGCGCCNDEGLECYPTESNTIMOIMRIKHOGCH	116
Dd	60	IFOEYPEDEIEITYFPCSVPLMRGCGCCNDEGLECYPTESNTIMOIMRIKHOGCH	115
RESULT	7		
ID	090X39	PRELIMINARY;	PRT; 190 AA.
AC	090X39;		
DT	01-MAY-2000	(TREMBLrel. 13, Created)	
DT	01-MAY-2000	(TREMBLrel. 13, last sequence update)	
DT	01-JUN-2001	(TREMBLrel. 17, last annotation update)	
DE	VASCULAR ENDOTHELIAL GROWTH FACTOR.		
OS	VEGF.		
OC	Spalax leucodon ehrenbergi (Ehrenberg's mole rat).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Spalacinae;		
OC	Spalax.		
OX	NCBI_TaxID=30637;		
OX	[1]		
RP	SEQUENCE FROM N.A.		
RP	MEDLINE-99313148; PubMed-10386577;		
RA	Ayal A., Resnick M.B., Nevo E., Joel A., Levy A.P.;		
RT	*Adaptive hypoxic tolerance in the subterranean mole rat Spalax ehrenbergi: the role of vascular endothelial growth factor.*		
RT	FEB8 Lett. 452:133-140(1999).		
DR	EMBL; AF186236; AAD56245.1; -.		

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DR HSP: P15692; 2YPE.
DR InterPro: IPR000072; PDGF.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PDGF_1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
DR SEQUENCE 190 AA; 22488 MW; 2228383BC65F0BFE CRC64;

Query Match 86.1%; Score 576.5; DB 11; Length 190;
Best Local Similarity 89.7%; Pred. No. 2.9e-58;
Matches 104; Conservative 4; Mismatches 7; Indels 1; Gaps 1;

OY 1 MNFLSWVHNSLALLLYLHNAKWSQAAPMAEGGGGNHHEVYKFMVDYORSYCHPIETLVD 60
DB 1 MNFLSWHMTLALLLYLHNAKWSQAAPLAE-GEOKPHEVYKFMVDYORSYCHPIETLVD 59
OY 61 IFOEYPRDEIEYIFKPSCVPLMRCGCCNDEGLCEYPTESNTITMOIMRIKPHOGH 116
DB 60 IFOEYPRDEIEYIFKPSCVPLMRCGCCNDEALECYPTESNTITMOIMRIKPHOGH 115

RESULT 8
O91ZE1 PRELIMINARY; PRT: 190 AA.
AC O91ZE1;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR.
GN VEGF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
[1]
SEQUENCE FROM N.A.
RC STRAIN-SPRAGUE-DAWLEY;
RA Marion S., Lee T.-C.;
RT *Cloning of multiple VEGF splice variants from hypoxic neonatal rat
RT cardiomyocytes.*
RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY035506; RAL07526.1;
SQ SEQUENCE 190 AA; 22396 MW; 569374010441F377 CRC64;

Query Match 86.9%; Score 568.5; DB 11; Length 190;
Best Local Similarity 88.8%; Pred. No. 2.4e-57;
Matches 103; Conservative 2; Mismatches 10; Indels 1; Gaps 1;

OY 1 MNFLSWVHNSLALLLYLHNAKWSQAAPMAEGGGGNHHEVYKFMVDYORSYCHPIETLVD 60
DB 1 MNFLSWHMTLALLLYLHNAKWSQAAPLAE-GEOKAHEVYKFMVDYORSYCHPIETLVD 59
OY 61 IFOEYPRDEIEYIFKPSCVPLMRCGCCNDEGLCEYPTESNTITMOIMRIKPHOGH 116
DB 60 IFOEYPRDEIEYIFKPSCVPLMRCGCCNDEALECYPTESNTITMOIMRIKPHOGH 115

RESULT 9
O96NM5 PRELIMINARY; PRT: 169 AA.
AC O96NM5;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
GN VEGF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;

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RN [1]
RP SEQUENCE FROM N.A.
RA Rieder M.J., Amel T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
RA Poel C.B., Toth E.J., Yi O., Nickerson D.A.;
RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF437895; AAL27630.1; -
FT NON TER 1
SQ SEQUENCE 169 AA; 1963 MW; 62832BEECD69A9 CRC64;

Query Match
Best Local Similarity 81.2%; Score 531; DB 4; Length 169;
Matches 94; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 23 WSGAAPAAEGGGONHHEVFMVDYORSYCHPIETLVDFQEPDELEYIFKPSCVPLMR 82
DB 1 WSGAAPAAEGGGONHHEVFMVDYORSYCHPIETLVDFQEPDELEYIFKPSCVPLMR 60
QY 83 CGGCCNDEGLECVPTESNITMQRIRKPHOGH 116
DB 61 CGGCCNDEGLECVPTESNITMQRIRKPHOGH 94

RESULT 10
ID 070123 PRELIMINARY; PRT; 141 AA.
AC 070123;
DT 01-AUG-1998 (TREMBLrel. 07, Created)
DT 01-AUG-1998 (TREMBLrel. 07, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE VEGF115.
GN VEGF.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-ICR;
RX MEDLINE=95101726; PubMed=7803491;
RA Sugihara T., Kaul S.C., Mitsui Y., Madhwa R.;
RT "Enhanced expression of multiple forms of VEGF is associated with
RT spontaneous immortalization of murine fibroblasts.";
RL Biochim. Biophys. Acta 1224:365-370(1994).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-ICR;
RX MEDLINE=98112857; PubMed=9446618;
RA Sugihara T., Madhwa R., Kaul S.C., Mitsui Y.;
RT "A novel alternatively spliced form of murine vascular endothelial
RT growth factor, VEGF 115.";
RL J. Biol. Chem. 273:3033-3038(1998).
DR EMBL: U50279; AAC05442.1; -
DR HSSP: P15692; IVP.
DR MGD: MGI:103178; Vegf.
DR InterPro: IPR000072; PDGF.
DR Pfam: PF00341; PDGF; 1.
DR ProDom: PD001629; PDGF; 1.
DR SMART: SM00141; PDGF; 1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
SQ SEQUENCE 141 AA; 1550 MW; A27CAEFA7071338 CRC64;

Query Match
Best Local Similarity 78.1%; Score 510.5; DB 11; Length 141;
Matches 92; Conservative 3; Mismatches 10; Indels 1; Gaps 1;

QY 1 MNFLSVNHSLLALLYLHAKMSQAPAAEGGGONHHEVFMVDYORSYCHPIETLVDF 60
DB 1 MNFLSVNHSLLALLYLHAKMSQAPAAEGGGONHHEVFMVDYORSYCHPIETLVDF 59
QY 61 IFQEPDELEYIFKPSCVPLMRGCGCNDDEGLCVPTESNITMQRIRKPHOGH 106
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DB 60 IFQEPDELEYIFKPSCVPLMRGCGCNDDEGLCVPTESNITMQRIRKPHOGH 105

RESULT 11
ID 042571 PRELIMINARY; PRT; 148 AA.
AC 042571;
DT 01-JAN-1998 (TREMBLrel. 05, Created)
DT 01-JAN-1998 (TREMBLrel. 05, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 122.
GN VEGF.
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
OX Xenopodinae; Xenopus.
RN [1]
RP SEQUENCE FROM N.A.
RC Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
RA "Neovascularization of the Xenopus embryo.";
RL Dev. Dyn. 0:0-0(1997).
DR EMBL: AF008594; AAB63680.1; -
DR HSSP: P15692; IYGH.
DR InterPro: IPR000072; PDGF.
DR Pfam: PF00341; PDGF; 1.
DR ProDom: PD001629; PDGF; 1.
DR SMART: SM00141; PDGF; 1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
SQ SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;

Query Match
Best Local Similarity 68.7%; Score 449; DB 13; Length 148;
Matches 83; Conservative 8; Mismatches 25; Indels 0; Gaps 0;

QY 1 MNFLSVNHSLLALLYLHAKMSQAPAAEGGGONHHEVFMVDYORSYCHPIETLVDF 60
DB 1 MNFLSVNHSLLALLYLHAKMSQAPAAEGGGONHHEVFMVDYORSYCHPIETLVDF 60
QY 61 IFQEPDELEYIFKPSCVPLMRGCGCNDDEGLCVPTESNITMQRIRKPHOGH 116
DB 61 IFQEPDELEYIFKPSCVPLMRGCGCNDDEGLCVPTESNITMQRIRKPHOGH 116

RESULT 12
ID 042572 PRELIMINARY; PRT; 194 AA.
AC 042572;
DT 01-JAN-1998 (TREMBLrel. 05, Created)
DT 01-JAN-1998 (TREMBLrel. 05, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 196.
GN VEGF.
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
OX Xenopodinae; Xenopus.
RN [1]
RP SEQUENCE FROM N.A.
RC Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
RA "Neovascularization of the Xenopus embryo.";
RL Dev. Dyn. 0:0-0(1997).
DR EMBL: AF008594; AAB63680.1; -
DR HSSP: P15692; IYGH.
DR InterPro: IPR000072; PDGF.
DR Pfam: PF00341; PDGF; 1.
DR ProDom: PD001629; PDGF; 1.
DR SMART: SM00141; PDGF; 1.
DR PROSITE: PS00249; PDGF_1; 1.
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Page 6

Db 1 VYORSYCHPIETLVDIFQEXYDEIEYIFKPSVPLMRGCGCCSDDALECVPTSESNTMQ 60
OY 106 IMRKPHQSOH 116
| | | : | | | | |
Db 61 IMRKPHQSOH 71

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Job time: 10938 sec